```
Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OM nucleic - nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                               Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Post-processing: Minimum Match 0%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-10-027-000-3
2502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 atggctgatattgatgttga.....attggtggtctggcgtgtaa 2502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      May 3, 2003, 21:10:52; Search time 179.041 Seconds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   746064 segs, 590810554 residues
                                                                                                                                                                                                                                                                                                                                                                                                                            Published_Applications_NA: *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GenCore version 5.1.4_p5_4578 Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                                                                                     /cgn2_6/ptodata/1/pubpna/US07_NEW_PUB.seq:*
/cgn2_6/ptodata/1/pubpna/PCTUS_PUBCOMB.seq:*
/cgn2_6/ptodata/1/pubpna/US08_EUBCOMB.seq:*
/cgn2_6/ptodata/1/pubpna/US08_PUBCOMB.seq:*
/cgn2_6/ptodata/1/pubpna/US09_NEW_PUB.seq:*
                                                                                                                                                                                                                                                                                                                                                                   /cgn2_6/ptodata/1/pubpna/PCT_NEW_PUB.seq:*
                                                                                                                                                                                                                                                                                                          'cgn2_6/ptodata/1/pubpna/US06_NEW_PUB.seq:*
'cgn2_6/ptodata/1/pubpna/US06_PUBCOMB.seq:*
                                                                                                                                                                                                                                                                                                                                                                                               cgn2_6/ptodata/1/pubpna/US07_PUBCOMB.seq:*
/cgn2_6/ptodata/1/pubpna/US09_PUBCOMB.seq:*
/cgn2_6/ptodata/1/pubpna/US10_NEW_PUB.seq:*
/cgn2_6/ptodata/1/pubpna/US10_NEW_PUB.seq:*
/cgn2_6/ptodata/1/pubpna/US60_NEW_PUB.seq:*
/cgn2_6/ptodata/1/pubpna/US60_PUBCOMB.seq:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (without alignments)
16512.552 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1492128
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

6 7 9 9 9 11 11 11 11 11 11 11 11 11 11 11	54221	Result
135.8 135.8 135.8 135.8 135.8 135.8 135.8 135.8 76.2 76.2 76.2 76.2 73.6 73.6 73.6 73.6 73.6 73.6	175.2 175.2 175.2 175.2 175.2	Score
7. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5.	7.0 7.0 7.0	Query Match Length
13613 50937 2166 2166 390 1294 1107 2712 1914 2541 11185 2010 2541	2430 2430 2430 2430 12441 13613	Length
10 9 9 10 10 10 10 10 10 10 10	9 9 9	DB
US-09-861-289-3 US-09-808-880-1 US-10-121-032-5 US-10-093-037-5 US-10-093-037-5 US-09-748-033-6 US-09-748-033-6 US-09-815-242-7960 US-09-815-242-7960 US-09-815-76-784 US-09-875-76-784 US-09-476-242-10 US-09-476-242-12	US-09-860-846-23 US-09-988-384B-23 US-09-861-289-23 US-09-988-384B-3 US-09-880-846-3	ID
Sequence 3, Appli Sequence 1, Appli Sequence 5, Appli Sequence 5, Appli Sequence 6, Appli Sequence 2, Appli Sequence 6, Appli Sequence 6, Appli Sequence 7960, Appli Sequence 784, Appli Sequence 9, Appli Sequence 9, Appli Sequence 10, Appli Sequence 11, Appli	Sequence 23, Appl Sequence 23, Appl Sequence 23, Appli Sequence 3, Appli Sequence 3, Appli	Description

	c							
4 4 5 4 5	41	389	36	ωω • ω Ν	30 31	26 27 28	23	20
65.2	65.4	, o o o o o o o o o o	67	67.6 67.6	68.8 68 67.6	70.8	70.8	70.8
2. 5. 5. 5.	000	22.7	22.7	2.7	2.7 2.7 2.7	222 888	N N N N	0 8 8
1248 1248 1248	390 2310	1965 1965 2322	4509 4512	15872 15872	1896 804 15872	37948 2541 88421	13842 13842 36778	1929 13842
10	10	10	9000	10		9 10		999
US-09-988-384B-7 US-09-861-289-7	US-09-790-399-7 US-09-476-242-21	US-09-748-033-7 US-09-826-660-26 US-09-476-242-20 US-09-988-462-2	US-10-124-800-5 US-10-124-800-5 US-10-124-800-27	US-09-988-384B-1 US-09-861-289-1 IG-10-134-800-31	US-10-124-880-15 US-09-773-748-2 US-09-860-846-1	US-09-988-384B-5 US-09-476-242-11 US-09-976-059-1	US-09-861-289-30 US-09-860-846-5 US-09-861-289-5	US-09-899-642-1 US-09-860-846-30
Sequence 7, Appli Sequence 7, Appli	Sequence 7, Appli Sequence 21, Appl	Sequence 26, Appl Sequence 20, Appl Sequence 2, Appli Sequence 2, Appli		Sequence 1, Appli Sequence 1, Appli Sequence 31, Appl	<pre>Sequence 15, Appl Sequence 2, Appli Sequence 1, Appli</pre>	Sequence 5, Appli Sequence 11, Appl Sequence 1, Appli	e 5 30	Sequence 1, Appli Sequence 30, Appl

ALIGNMENTS

; TYPE: DNA ; ORGANISM: Streptomyces venezuelae US-09-860-846-23 RESULT 1 US-09-860-846-23 B Qy 밁 QУ 밁 δÃ 밁 SOFTWARE: Fast; SEQ ID NO 23 LENGTH: 2430 Sequence 23, Application US/09860846 Patent No. US20020164742A1 GENERAL INFORMATION: Matches 1016; Query Match 7.0%; Best Local Similarity 47.6%; TITLE OF INVENTION: DNA encoding methymycin and pikromycin FILE REFERENCE: 600.438US1 CURRENT APPLICATION NUMBER: US/09/860,846 CURRENT FILING DATE: 2001-05-18 PRIOR APPLICATION NUMBER: 09/105-18
PRIOR FILING DATE: 1998-06-26
NUMBER OF CONTROL OF C APPLICANT: Sherman, D.H. APPLICANT: Liu, H. NUMBER OF SEQ ID NOS: 413 533 CGGTCGCCCAGATCAAGGGCATCCAGGGTGCGGGTCTGATGACCACGGCCAAGCACTTCG 592 386 CTGCGGCTCTCATCCGCGGCATTCAGAGCACTGGAGTGCAGGCTACGATCAAGCACTTTT 445 326 CTCTCGGTGGACGTGGGTTCGAGTCGATTGGTGAGGATCCGTTCCTGGCGGGCTTGGGAG 385 266 AGGCCATCGCTAAGAGTGCGCATGTGATCCTCGGCCCGACTATCAACATGCAACGCTCCC 325 353 CCCTGGCCAGCACCTTCGACGACACCATGGCCGACAGCTACGGCAAGGTCATGCGCCGCG 412 206 CGCTCGGTTCCACATTCAACCAAACTCTGCTCGAAGAGGCAGGTAAGATGATGGGCAAAG 265 CGCACGGCGGCCGGAACTACGAGACCTTCAGCGAGGACCCCCTGGTCTCCTQGCGCACCG 532 FastSEQ for Windows Version 3.0 Xue, Y. Conservative 0; Mismatches 968; Score 175.2; DB 9; Length 2430; Pred. No. 1.2e-38; Indels 150; Gaps

11;

```
밁
                                            δõ
                                                                                        뫄
                                                                                                                             Q
                                                                                                                                                                            망
                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                 ᅡ
                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       γQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                              1466
1508 CCATCGAGGCCGGTCAGGTCTACGGCAAGGTGAGCAGCCCGCTCCTCAAGCTGACCAAGG 1567
                                                                                                                                                                              1436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1166
                                                                                            1495
                                                                                                                                                                                                                                                                1376
                                                                                                                                                                                                                                                                                                       1286
                                                                                                                                                                                                                                                                                                                                                 1342
                                                                                                                                    1406
                                                                                                                                                                                                                                                                                                                                                                                         1226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1106
                                                                                                                                                                                                               1346 ACACCGCCGACGAGGACTGCACCTACGAGCTCGGCCTCGTCGTCTGCGGCACGGCAAAGG 1405
                                                                                                                                                                                                                                                                                                                                                                                                                            1282 CGCGCGGGTGCGGTGCGACGGTGACGTACGAGACGGGTGAGGAGACCTTCGGGACGCAG 1341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1222 CTGGGCAGCGCCACGTCGTCCCGGACTCGGCGGCGCGCCCACTCGACACCATCAAGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1163 ACGCCGGCAAGAGCATCGCGGTCATCGGCCCGACGGCCGTCGAC-CCCAAGGTCACCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1103 TCGCCGAGAACGGCGCGCGCTCCTGCGCAACGAGGGCCAGGCCCTGCCGCTCGCCGGTG 1162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1043 CCACTCCGGCGCGCGGCCGAGCGCGACAAGGCGGGTGCCCAGGCGGTGTCCCGCAAGG 1102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         986 AGAAGAAGAAGACGCTGATTGTCGGCCCCAACGCCAAGCAGGCCACATACCACGGCGGAG 1045
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               926 AGGTTGGCAACGAGGGCATCGTGCTGCTGAAGAACGAGAACAACGTTCTGCCCCTTGAGCA 985
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             983
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            866 CGGAGAACGGCCCCGAGACGACTGTCAACAACACCCCCGAAACGGCAGCTCTCCTCCGGA 925
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             926
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               874
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  830
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               686 CATACAGTACCACAGAAGCCGTTGTGGCCAGGCCTCGACCTCGAGATGCCCGGACCTCCAC 745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     566 TCATGACGGCGTACAATGGCATCAATGGCGTGTGCTGCAGGGAGAACCCTAAATATCTTG 625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     653
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TCTTCGGCTCCGCCACCCGCGAGGAGACGGGCCGCATCAATCTCGTCAAGGGCAACACGT 1525
                                                                                                                                                                                                                                                                                          TGGTGGACTACCACCCCAAGGCGGCAGACACGTGGTACGCCGACATGGAGGGCACGT 1345
                                                                                                                                                                     CCGCCGACGGCGAGTACCGCATCGCGGTCCGTGCCACCGGTGGTTACGCCACGGTGCAG- 1494
                                                                                                                                                                                                                                                                                                                                           CTGGTACCCCTAACCGCCAGCACATTGACGAGCTCTTCTTCACCAAGACGGACATGCAÇC 1285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGCAGTGCCTCACGCCCGACGGCGCTCCGGGGCATGCGCTGGAGGGTCTTCAACGAGCCCC 1225
                                                                                                                           CGTACGTAGACGACCAGCTCGTCGTCGACAACGCCACCAAGCAGGTCCCCGGCGATGCCT 1465
                                                                                                                                                                                                                                                       TCGAGACGCCGCCATCGTACACCGTCGGCGCCTACACCACCGTTCCTCCCATTCTAGGCG 1165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGCCAACAACCAGGAGAACACCGCTTCTCCGTGAACGCCAATGTCGACGAGCAGACGC 652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATGGGATGCTTCGAAAGGAATGGGGTTGGGATGGCCTAATGAGCGACTGGTACGGCA 685
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCGTGACGCGGTCGGCGGAGCGGATCGTCGGCCAGATGGAGAAGTTCGGTCTGCTCCTCG 1042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGTTCTTCGGCGA----GGCGCTGAAGACGGCCGTCCTGAACGGCACGGTCCCCGAGGCGG 982
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCTTCCGAGGAGAAACACTCAAGTTCAACGTCTCCAACGGAAAGCCCTTTATCCACGTCA 805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C---CCCGGGCACCGACGCCATCACCAAGGGCCTCGACCAGGAGATG------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACAACGTGCTGCGCACGCAGTGGGGCTTCCAGGGCTGGTGATGTCCGACTGGCTCGCCA 829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCATGTGTGCCTACAACGGCCTCAACGGGAAGCCGTCCTGCGGCAACGACGAGCTCCTCA 769
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCCGCGAGATCGAGTTCCCGGCGTTCGAG----GCGTCCTCCAAGGCCGGCGGCGGCCTCCT 709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCCGTGAAATCTACGCACTCCCGTTCCAGATTGCTGTGCGAGACTCCCAGCCGGGTGCGT 565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGTGCAATGATCAGGAGGACAGGCGCATGATGGTGCAGAGCATCGTCACGGAGCGGGCTC 505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -GGCGTCGAGCTCCCCGGCGACGTCCCGAAGGGCGAGCCCTCGCCGCCGGCCA 925
                                                                                   -CTCGGCAGCCACA 1507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              873
```

C 2348	õ	2315	Db
C 2327	TCGAACTGCAGCCCGGCGAGACGAAGGCGGTGAC	2294	Qy
NAGAAGAAGCTCGTGGGCTACACGAAGG 2314	GTGCCAGCCCGAACGTGACGGCTCCGCAGGCGAAGAAGAAGCTCGTGGGCTACACGAAGG	2255	Db
TCAAGGAGCTCAAGGGCTTCGCAAAGG 2293	AGCCCCTCCAAGCGGCCAAGATTAACCGCCCCGTCAAGGAGCTCAAGGGCTTCGCAAAGG	2234	Qy
GCCAGGAGGTCGTCCAGGCGTACCTCG 2254	CGGTCACGGTCCGCAACAGCGGGAAGCGCGCCGGCCAGGAGGTCGTCCAGGCGTACCTCG	2195	Db
GCGCACAGGTGGCCCAGCTCTACGTCA 2233	CCTCTCCGTGAAGAACACCGGCTCCGTGCCCGGCGCACAGGTGGCCCAGCTCTACGTCA	2174	Qy
CGTACGTCCACGGGTGGTCTGAAGGTCA 2194	CCTCGTTCACGCAGAGCGCCCCGACCGTCGTGCGTACGTCCACGGGTGGTCTGAAGGTCA	2135	Db
CACAAGGACGGCAAGCTGAGCGTGT 2173	CCACTTTTGCCTTTTCCAATCTCTCCGTGTCTCACAAGGACGGCAAGCTGAGCGTGT	2117	Qy
TTCCCGTTCGGGCACGGCCTGTCGTACA 2134	ი -	2075	рь
TTCCCCTTTGGCCACGGCCTGTCCTACA 2116	GGTACTACGAGTTTGCCGACAAGGACGTCAATTTCCCCTTTGGCCACGGCCTGTCCTACA	2057	Qy
FACCGCGAGGCATCCACGTCGGGTACC 2074	CAAGCTACCCGGGCGTCGACAACCAGCAGAC	2015	Db
GTACGGCGAGGACGTCTACGTCGGGTACA 2056	TCAACTTCCGCACCGAGGCCGGGCGCACGCT	1997	Qy
NACCAGCACGCGGTCGCCGGCGACCCGA 2014	์ด -	1955	Db
AAGCGCCTGCAGGACAACCCCGCGTTTC 1996	GCAAGCTGTCCCTCAGCTTCCCC	1946	Qy
TIGCTCTACGGTGACGTCAACCCGAGCG 1954	CGGGCCAGGCGGCGAGGCCACCGCCGCGCTGCTCTACGGTGACGTCAACCCGAGCG	1895	Db
TCGTCTTTGGCGACTACAACCCCTCGG 1945	GCGGCAACGAGACGGGCAACTCCATT	1886	Qy
ACCCGCGCGGTCCTGGACATGTGGTACC 1894	GTTCGTCGGTGCTGATGCCGTGGCTGTCCAAGACCCGCGCGGTCCTGGACATGTGGTACC	1835	Db
ACGCCCGCCGTCATCCAGGCCTGGTACG 1885		1826	Qy
CGCCAACCCGAACACGATCGTGGTCCTCAACACCG 1834	ACAAGCTGATCTCGGCTGTCGCGGA	1775	Db
CCAAACACCGTCGTCGTCATGCAGACGG 1825	ACCAGCTCATTGCCGACGTGGCCGC	1766	Qy
CGAACCTGTCGCTGCCGGGTACGCAGG 1774		1716	Db
зседесатедаестсесе в 1765	123	1706	Qy
CGTACGCCGTCGTCTCGC 1715	TCGCGAAGGCCGTGGAGTCGGCGCGGAAGGCCCGTACGGCGGTCGTCTTCGC	1664	Дb
GACCAGGTCATCATCTGCGCGGGCCTTA 1705	TCGAAAAGT	1646	Qy
GTGACGCCGGCGGCGGCCGACGA 1663	GTGCCACCCGGCTCTCCCTGGAGCTGGGCTGACGGCGGCGGCGGCCGACGACGACGA	1604	Db
TGCAAGGTCATTGACGACCAGGCCGAAA 1645	TCCCCGGCCACGG	1586	Qy
CACGATCTCGGGCTTCGCGATGA 1603	GCACGCACAAGCT	1568	Дb
ACCTACACCCTCAAGGGCGACACCATCG 1585	ACAAGTTCAAGATCGAGTTCGGCTCCGCACCCACCTACACCCTCAAGGGCGACACCATCG	1526	Qy

	GCG 1165	TCGAGACGCCGCCATCGTACACCGTCGGCGCCTACACCACCGTTCCTCCCATTCTAGG	1106	٥
	GC 1221	ACGCCGGCAAGAGCATCGCGGTCATCGGCCCGACGGCCGTCGAC-CCCAAGGTCACCG	1163	В
	GC 1105	GCTCTGCCGCACTCAGGGCCTACTACGCAGTCACTCCCTTTGACGGCCTCAGCAGCAGC	1046	Qy
	TG 1162	TCGCCGAGAACGGCGCGGTGCTCCTGCGCAACGAGGCCAGGCCCTGCCGCTCGCCGGTG	1103	ф
	AG 1045	AGAAGAAGAAGACGCTGATTTGTCGGCCCCAACGCCAAGCAGGCCACATACCACGGCGGAG	986	Qy
	.GG 1102	CCACTCCGGCGCCGCGGGCGAGCGGGACAAGGCGGGTGCCCAGGCGGTGTCCCGCAAGG	1043	рь
	CA 985	AGGTTGGCCAACGAGGGCATCGTGCTGCTGAAGAACGAGAACAACGTTCTGCCCTTGAG	926	Qy
		CCGTGACGCGGTCGGCGGAGCGGATCGTCGCTCCTCG	983	B 4
	0 1	י כ	א נ	
	GA 865	TTGACCAGAGGGCTAGGGAAGTTCTTCAGTTCGTCAAGAAGTGTGCTGCCTCCGGAGTGA TTGACCAGAGGGCTAGGGGAAGTTCTTCAGTTCGTCAAAGAAGTGTGCTGCCTCCGGAGTGA AGTTCTTCGGGGAGGGCTTGAAAGAGGGCTGTTGAAAGAGGACGGCTAGAAGGACGAGAGGAGAGGGCGAGAGGGGGGGG	926	로 원
	CA 925		874	망
	CA 805	GCTTCCGAGGAGAAACACTCAAGTTCAACGTCTCCAACGGAAAGCCCTTTATCCACGTCA	746	Qy
÷	873	CCCCGGGCACCGACGCCATCACCAAGGGCCTCGACCAGGAGATG	830	DЬ
•	AC 745	CATACAGTACCACAGAAGCCGTTGTGGCAGGCCTCGACCTCGAGATGCCCGGACCTCC	686	Qy
	CA 829	ACAACGTGCTGCGCACGGGTGGGGCTTCCAGGGCTGGGTGATGTCCGACTGGCTCGCCA	770	Вb
	CA 685	ATGGGATGCTTCGAAAGGAATGGGGTTGGGGATGGCCTAATCATGAGCGACTGGTACGG	626	Qy
a.	CA 769	TCATGTGTGCCTACAACGGCCTCAACGGGAAGCCGTCCTGCGGCAACGACGACGACGTCCTCA	710	В
	TG 625	TCATGACGGCGTACAATGGCATCAATGGCGTGTGCTGCAGCGAGAACCCTAAATATCT	566	Qy
	CT 709	TCCGCGAGATCTACGCACTCCCGTTCCAAATTGCTGCGAAGGCCGGCGGCGCCTCCT	653	₽ 4 <u>8</u>
		CGGCCAACCAGGAGAACAACCGCTTCTCCGTGAACGCCAATGTCGACGAGGAGCAGAC		ď
		TGTGCAATGATCAGGAGGACAGGCGCGCTGAGGAGGAGCATCGTCACGGAGCGGGCTC	46	Qy
	CG 592	CGGTCGCCCAGATCAAGGGCATCCAGGGTCTGGGGTCTGACCACGGCCAAGCACTT	533	Db
	TT 445	CTGCGGCTCTCATCCGCGGCATTCAGAGCACTGGAGTGCAGGCTACGATCAAGCACTTTT	386	Qy
	CG 532	CGCACGGCGGCCGGAACTACGAGAACCTTCAGCGAGGACCCCCTGGTCTCCTCGCGCACCG	473	DЬ
	AG 385	CTCTCGGTGGACGTGGCTTCGAGTCGATTGGTGAGGATCCGTTCCTGGCGGGCTTGGG	326	Qy
	GC 472	ACGGTCGCGCGCTCAACCAGGACATGGTCCTGGGCCCGATGATGAACAACATCCGGGTGC	413	B 5
		このこのでは、この日には、この日に日に、この日に日に、この日に日に、日に、日に、日に、日に、日に、日に、日に、日に、日に、日に、日に、日に	ני ט	2
:		CGCTCGGTTCCACATTCAACCAAACTCTGCTCGAAGAGGCAGGTAAGATGATGGGCAAAG 	06	P &
1;	Gaps 1	Whatch 7.0%; Score 175.2; DB 9; Length 2430; Local Similarity 47.6%; Pred. No. 1.2e-38; nes 1016; Conservative 0; Mismatches 968; Indels 150;	er tcl	Qu Ma
		SM: Streptomyces venezuelae 384B-23	ORGANISM: St -09-988-384B-2	; ;
		TILING DATE: 1998-06-26 OF SEQ ID NOS: 53 NO 23 TH: 2430	NUMBER OF SEQ ID NO LENGTH:	
		1000 00)	

1116 AGANTICCCTEACCCCCACCGCCCACCGCCCCCCCCCCCCCCCCCC																																			
222 CTRGG-ANCOCCIACGTCCTCCCGAACTCCGGCCACCCACCACCACCACCACCACCACCCCCCCC	Qy	Db	Оу	Фр	Db	Оу	Db	Qy	Db	Оу	Db	Оу	Db	Ωу	Db	Qy	Db	Оу	Db	Оу	Db	Qy	Db	Qy	Db	Qy	Дb	Qy	Db	Qy	DЬ	Qy	Db	Qy	Db
128: 128: 128: 128: 128: 128: 137: 144: 144: 150: 150: 150: 150: 150: 150: 150: 150	17	13	2117	05	2015	1997	95	4	1895	1886	1835	œ	77	76		~1	66	64	1604	58	56	52	ŪΠ	46	49	4	1436	1346	w	N	34	22	28	16	222
	CCTCTCCGTGAAGAACACCGGCTCCGTGCCCGGGGCACAGGTGGCCCAGCTCTACGTCA 22	CCTCGTTCACGCAGAGCGCCCCGACCGTCGTGCGTACGTCCACGGGTGGTCTGAAGGTCA 21	CCACTTTTGCCTTTTCCAATCTCTCCGTGTCTCACAAGGACGGCAAGCTGAGCGTGT 21	211	CAAGCTACCCGGGCGTCGACAACCAGCAGACGTACCGCGAGGGCATCCACGTCGGGTACC 207	TCAACTTCCGCACCGAGGCCGGGCGCACGCTGTACGGCGAGGACGTCTACGTCGGGTACA 205	GCAAGCTCACGCAGAGCTTCCCGGCCGCCGAGAACCAGCACGCGGTCGCCGGCGACCCGA 201	GCAAGCTGTCCCTCAGCTTCCCCAAGCGCCTGCAGGACAACCCCGCGTTTC 199	CGGGCCAGGGGGGCGCGAGGCCACCGCGCGCTCTACGGTGACGTCAACCCGAGCG 195	GCGGCAACGAGACGGCAACTCCATTGCCGACGTCTTTGGCGACTACAACCCCTCGG 194	GTTCGTCGGTGCTGATGCCGTGGCTGTCCAAGACCCGCGGGTCCTGGACATGTGGTACC 18	GCACCCCCGAGGAGATGCCCTGGCTCGACGCCCGCCGCCGCCGTCCATCCA	ACAAGCTGATCTCGGCTGTCGCGGACGCCAACCCGAACACGATCGTGGTCCTCAACACCC 183	CAGACGG 1	-CTACGACGACGGCACCGAGGGCGTCGACCGTCCGAACCTGTCGCTGCCGGGTACGCAGG 177	ACGCCGACTGGGAGACCGAGGCGCCCGCGCGCGAGCATGAAGCTCCCCGGCGTGCTGC 176	171	GGGCCTTA 170	A 166	164	CACGATCTCGGGCTTCGCGATGA 160	158	CCATCGAGGCCGGTCAGGTCTACGGCAAGGTGAGCAGCCCGCTCCTCAAGCTGACCAAGG 156	15			CCGCCGACGCGAGTACCGCATCGCGGTCCGTGCCACCGGTGGTTACGCCACGGTGCAG- 1		143	TGGACTACTACCACCCAAGGCGGCAGACACGTGGTACGCCGACATGGAGGCACGT 13	CCGGCGTTCAACC 137	TGGTACCCCTAACCGCCAGCACATTGACGAGCTCTTCTTCACCAAGACGGACATGCACC 1	-		CTGGGCAGCCCCACGTCGTCCCGGACTCGGCGGCGCCCACTCGACACCATCAAGGCC

	Qy 686 CATACAGTACCACAGAAGCCGTTGTGGCAGGCCTCGACCTCGAGATGCCCGGACCTCCAC 745
	770 ACAACGTGCTGCGCACGCAGTGGGGCTTCCAGGGCTGGGTGATGTCCGACTGGCTCGCCA
	OV 626 ATGGGATGCTTCGAAAGGAATGGGGTTGGGATGGCCTAATCATGAGCGACTGGTACGGCA 685
	QY 500 TCATGACGGCGTACAATGGCATCAATGGCGTGCTGCAGCGAGAACCCTAAATATCTTG 625
	TOGETHER AND THE CONTROL OF THE CONT
	446 TGTGCAATGATCAGGAGGACAGGCGCATGATGGTGCAGAGCATCGTCACGGAGCGGCTC
	QY 386 CTGCGGCTCTCATCCGCGGCATTCAGAGCACTGGAGTGCAGGCTACGATCAAGCACTTTT 445
	Oy 326 CTCTCGGTGGACGTGGCTTCGAGTCGATTGGTGAGGATCCGTTCCTGGCGGGCTTGGGAG 385
	Oy 266 AGGCCATCGCTAAGAGTGCGCATGTGATCCTCGGCCCGACTATCAACATGCAACGCTCCC 325
	QY 206 CGCTCGGTTCCACATTCAACCAAACTCTGCTCGAAGAGGCAAGGTAAGATGATGGGCAAAG 265
11;	Query Match 7.0%; Score 175.2; DB 10; Length 2430; Best Local Similarity 47.6%; Pred. No. 1.2e-38; Matches 1016; Conservative 0; Mismatches 968; Indels 150; Gaps
,	CURRENT APPLICATION NUMBER: US/09/861,289 CURRENT FILING DATE: 2001-05-18 FRIOR APPLICATION NUMBER: 09/105,537 PRIOR FILING DATE: 1998-06-26
	xue, Y. Zhao, L. WENTION: DI
	861
	RESULT 3
	QY 2294 TCHARCTCCGCCGARGARGAGGGGTGAC 2327 QT
	2255 GTGCCAGCCCGAACGTGACGGCTCCGCAGGCGAAG
	2234 AGCCCCTCCAAGCGGCCAAGATTAACCGCCCCGTCAAGGAGCTCAAGGGCTTCGCAAAGG
	. 3757 — 3195 — იცილიგიცილიიცი გაიციციცი განიციცი განიციცი განიცი განიცი განიცი განიცი განიცი განიცი განიცი გა

83		Db
1825		Οy
1774		Дb
1765		Qy
1715	TTCGC	DЪ
1705	CGAAAAGTCCGTCGCCCTCGCCAAGGAGCACGACCAGGTCATCATCTGCGCGGGCCTTA	Qy
1663	1604 GTGCCACCCCGCTCTCCCTGGAGCTGGGCTGGGTGACGCCGGCGGCGGCGACGACGACGA	DЪ
1645	CCCTCCGCGTCGGCGGCTGCAAGGTCATTGACGACCAGGCCGAAA	Qу
1603	1568 GCACGCACAAGCT	Db
1585	ω	Qy
1567	1508 CCATCGAGGCCGGTCAGGTCTACGGCAAGGTGAGCAGCCCGCTCCTCAAGCTGACCAAGG	Db
1525	TTCGGCTCCGCCACCCGCGAGGAGGGCCGCGCATCAATCTCGTCAAGGGCAACACGT	Qy
1507	1495	Db
1465	GGCGATGCCT	Qy
1494	1436 CCGCCGACGCGAGTACCGCATCGCGGTCCGTGCCACCGGTGGTTACGCCACGGTGCAG- :	: Db
1405	ACCTACGAGCTCGCCTCGTCTGCGGCACGGCAAAGG	Qy
1435	1376 AGGGCCACCAGCTCGAGCCGGGCAAGGCGGGGGGGGCGCTGTACGACCGTGCCCTGACCGTGC	Db
1345	GAGGGCACGT	Qy
1375	CCCGGCGTTCAACC	Db
1285	1226 CTGGTACCCCTAACCGCCAGCACATTGACGAGCTCTTCTTCACCAAGACGGACATGCACC	Qy
1341		Db
1225	1166 AGCAGTGCCTCACGCCCGACGGCGCTCCGGGCATGCGCTCGGAGGGTCTTCAACGAGCCCC	Qy
1281	1222 CTGGGCAGCGCCACGTCGTCCCGGACTCGGCGGCGCGCCACTCGACACCATCAAGGCC	Db
1165		QУ
1221		Db
1105	CGGCCTCAGCAAGCAGC	Qу
1162	1103 TCGCCGAGAACGGCGCGGTGCTCCTGCGCAACGAGGGCCAGGCCCTGCCGCTGCGCGGTG	Db
1045	ACGCCAAGCAGGCCACATACCACGGCGGAG	Qy
1102	1043 CCACTCCGGCGCGCGCGCGGAGCGCGACAAGGCGGGTGCCCAGGCGGTGTCCCGCAAGG	рь
985	TGCTGCTGAAGAACGAGAACGTTCTGCCCTTGAGCA	Qy
1042	CGTGACGCGGTCGGCGGAGCGGATCGTCGGCCAGATGGAGAAGTTCGGTCTGCTCCTCG	Db
925	CCTCCGGA	Qy
982	926 AGTTCTTCGGCGAGGCGCTGAAGACGGCCGTCCTGAACGGCACGGTCCCCGAGGCGG	Db
865	AAGAAGTGTGCTGCCTCCGGAGTGA	Qy
925	874	Db
805	TCCAACGGAAAGCCCTTTATCCACGTCA	Qy

```
밁
                    Qy
                                             В
                                                                    Qy
                                                                                                                                               ; LENGTH: 12441
; TYPE: DNA
; ORGANISM: Streptomyces
US-09-988-384B-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밇
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δã
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                             US-09-988-384B-3
                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                  Sequence 3, Application US/09988384B Publication No. US20030073824A1
                                                                                                          Query Match
Best Local Similarity
                                                                                                                                                                                                 NUMBER OF SEQ ID NOS: SEQ ID NO 3
                                                                                                 Matches 1016;
                                                                                                                                                                                                                       PRIOR FILING DATE: 1999-06-25
PRIOR APPLICATION NUMBER: US
PRIOR FILING DATE: 1998-06-26
                                                                                                                                                                                                                                                                        TITLE OF INVENTION: DNA encoding methymycin FILE REFERENCE: 600.536US1 CURRENT APPLICATION NUMBER: US/09/988,384B CURRENT FILING DATE: 2001-11-19
                                                                                                                                                                                                                                                                                                                                                APPLICANT: Sherman, D.H. APPLICANT: Liu, H.
                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                            PRIOR APPLICATION NUMBER: PCT/US99/14398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1835
4037
                                               3977
                                                                                                                                                                                                                                                                                                                                                                                                                                                               2315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2075
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2057
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1955
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1895
                        266
                                                              206 CGCTCGGTTCCACATTCAACCAAACTCTGCTCGAAGAGGCAGGGTAAGATGATGGGCAAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAAGCTACCCGGGCGTCGACAACCAGCAGACGTACCGCGAGGGCATCCACGTCGGGTACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCGGCAACGAGACGGGCAACTCCATTGCCGACGTCGTCTTTGGCGACTACAACCCCCTCGG
ACGGTCGCGCGCTCAACCAGGACATGGTCCTGGGCCCGATGATGAACAACATCCGGGTGC
                      AGGCCATCGCTAAGAGTGCGCATGTGATCCTCGGCCCGACTATCAACATGCAACGCTCCC
                                              CCCTGGCCAGCACCTTCGACGACACCATGGCCGACAGCTACGGCAAGGTCATGGGCCGCG 4036
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGCCCCTCCAAGCGCCCAAGATTAACCGCCCCGTCAAGGAGCTCAAGGGCTTCGCAAAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCCTCTCCGTGAAGAACACCGGCTCCGTGCCCGGCGCACAGGTGGCCCAGCTCTACGTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCTGGTTCGACAAGGAGAACGTCAAGCCGCTGTTCCCGTTCGGGCACGGCCTGTCGTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGTACTACGAGTTTGCCGACAAGGACGTCAATTTCCCCCTTTGGCCACGGCCTGTCCTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCAACTTCCGCACCGAGGCCGGGCGCACGCTGTACGGCGAGGACGTCTACGTCGGGTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCAAGCTGTCCCTCAGCTTCCCC------AAGCGCCTGCAGGACAACCCCGCGTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGGGCCAGGCGGGCGCCACCGCCGCGCGCTGCTACGGTGACGTCAACCCGAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCACCCCGAGGAGATGCCCTGGCTCGACGCCACCGCCGCCGTCATCCAGGCCTGGTACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GTGCCAGCCCGAACGTGACGGCTCCGCAGGCGAAGAAGAAGCTCGTGGGCTACACGAAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGGTCACGGTCCGCAACAGCGGGGAAGCGCCGGCCCAGGAGGTCGTCCAGGCGTACCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCTCGTTCACGCAGAGCGCCCCGACCGTCGTGCGTACGTCCACGGGTGGTCTGAAGGTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCACTTTTGCCTTTTCCAATCTCTCCGTGTCTCACAAGGAC---GGCAAGCTGAGCGTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCAAGCTCACGCAGAGCTTCCCCGGCCGCCGAGAACCAGCACGCGGTCGCCGGCGACCCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Liu, H.
Xue, Y.
Zhao, L
                                                                                               Conservative
                                                                                                                                                                                                                                                 1999-06-25
                                                                                                          7.0%;
                                                                                                                                                            venezuelae
                                                                                                                                                                                                                                    US 09/105,537
                                                                                              Score 175.2; DB 9; Pred. No. 1.8e-38; 0; Mismatches 968;
                                                                                                                                                                                                                                                                                                               and
                                                                                                                                                                                                                                                                                                             pikromycin
                                                                                               Indels 150;
                                                                                                                       Length 12441;
                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .2056
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2014
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1945
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1885
4096
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2074
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1954
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1894
                                                                                               11;
          Ъ
                                δÃ
                                                          В
                                                                                Qy
                                                                                                           망
                                                                                                                                 Qy
                                                                                                                                                            B
                                                                                                                                                                                  Qy
                                                                                                                                                                                                           Ъ
                                                                                                                                                                                                                                 QV
                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                   QY
                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                  Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                    1286
                                                                                                                                                                                    1166
                                                                                                                                                                                                                                    1106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4217
                                                                                                            4966
                                                                                                                                    1226
                                                                                                                                                            4906
                                                                                                                                                                                                            4846
                                                                                                                                                                                                                                                             4787
                                                                                                                                                                                                                                                                                     1046
                                                                                                                                                                                                                                                                                                             4727
                                                                                                                                                                                                                                                                                                                                                             4667
                                                                                                                                                                                                                                                                                                                                                                                                             4607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4097
                                                                                                                                                                                                                                                                                                                                                                                                                                                               4550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        326
```

```
γ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4454 C---CCCGGGCACCGACGCCATCACCAAGGGCCTCGACCAGGAGATG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTCTCGGTGGACGTGGACTTCGAGTCGATTGGTGAGGATCCGTTCCTGGCGGCTTGGGAG
   CGTACGTAGACGACCAGCTCGTCGTCGACAACGCCACCAAGCAGGTCCCCGGCGATGCCT 1465
                                                                                                        ACACCGCCGACGAGGACTGCACCTACGAGCTCGGCCTCGTCGTCTGCGGCACGGCAAAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCATGACGGCGTACAATGGCATCAATGGCGTGTCGTGCAGCGAGAACCCTAAATATCTTG
                                                                       CCGCCGACGGCGAGTACCGCATCGCGGTCCGTGCCACCGGTGGTTACGCCACGGTGCAG- 5118
                                                                                                                                                                                                AGGGCCACCAGCTCGAGCCGGGCAAGGCGGGGGGGGGCGCTGTACGACGGCACGCTGACCGTGC
                                                                                                                                                                                                                                                                 TGGTGGACTACCACCCCAAGGCGGCAGACACGTGGTACGCCGACATGGAGGGCACGT
                                                                                                                                                                                                                                                                                                                                 CTGGTACCCCTAACCGCCAGCACATTGACGAGCTCTTCTTCACCAAGACGGACATGCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGCGCGGGTGCGGGTGCGACGGTGACGTACGAGACGGGTGAGGAGACCTTCGGGACGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGCAGTGCCTCACGCCCGACGGCGCTCCGGGCATGCGCTGGAGGGGTCTTCAACGAGCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTGGGCAGCGCCCACGTCGTCCCGGACTCGGCGGCGCGCCACTCGACACCATCAAGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCGAGACGCCGCCATCGTACACCGTCGGCGCCTACACCACCGTTCCTCCCATTCTAGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACGCCGGCAAGAGCATCGCGGTCATCGGCCCGACGGCCGTCGAC-CCCAAGGTCACCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCGCCGAGAACGGCGCGGTGCTCCTGCGCAACGAGGCCCAGGCCCTGCCGCTCGCCGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCACTCCGGCGCCGCGGCCCGAGCGCGACAAGGCGGGTGCCCCAGGCGGTGTCCCGCAAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGGTTGGCAACGAGGGCATCGTGCTGCTGAAGAACGAGAACAACGTTCTGCCCTTGAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCGTGACGCGGTCGGCGGAGCGGATCGTCGGCCAGATGGAGAAGTTCGGTCTGCTCCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGGAGAACGGCCCCGAGACGACTGTCAACAACACCCCCGGAAACGGCAGCTCTCCTCCGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGTTCTTCGGCGA----GGCGCTGAAGACGGCCGTCCTGAACGGCACGGTCCCCGGAGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTGACCAGAGGGCTAGGGAAGTTCTTCAGTTCGTCAAGAAGTGTGCTGCCTCCGGAGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCTTCCGAGGAGAAACACTCAAGTTCAACGTCTCCAACGGAAAGCCCTTTATCCACGTCA 805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CATACAGTACCACAGAAGCCGTTGTGGCAGGCCTCGACCTCGAGATGCCCGGACCTCCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACAACGTGCTGCGCACGCAGTGGGGCTTCCAGGGCTGGGTGATGTCCGACTGGCTCGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATGGGATGCTTCGAAAGGAATGGGGTTGGGATGGCCTAATCATGAGCGACTGGTACGGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCATGTGTGCCTACAACGGCCTCAACGGGAAGCCGTCCTGCGGCAACGACGACGACCTCCTCA 4393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCCGCGAGATCGAGTTCCCGGCGTTCGAG - - - GCGTCCTCCAAGGCCGGCGCGCGCCTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCCGTGAAATCTACGCACTCCCGTTCCAGATTGCTGTGCGAGACTCCCAGCCGGGTGCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGGCCAACAACCAGGAGAACAACCGCTTCTCCGTGAACGCCAATGTCGACGAGCAGACGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGTGCAATGATCAGGAGGACAGGCGCATGATGGTGCAGAGCATCGTCACGGAGCGGCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGGTCGCCCAGATCAAGGGCATCCAGGGTGCGGGTCTGATGACCACGGCCAAGCACTTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTGCGGCTCTCATCCGCGGCATTCAGAGCACTGGAGTGCAGGCTACGATCAAGCACTTTT 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGCACGGCCGGAACTACGAGACCTTCAGCGAGGACCCCCTGGTCTCCTCGCGCACCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGAAGAAGAAGACGCTGATTGTCGGCCCCAACGCCAAGCAGGCCACATACCACGGCGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -GGCGTCGAGCTCCCCGGCGACGTCCCGAAGGGCGAGCCCTCGCCGCCGGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    865
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4453
                                                                                                                                                                                                                                                                    1345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4845
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1045
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4726
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4666
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4216
                                                                                                                                   1405
                                                                                                                                                                                                    5059
                                                                                                                                                                                                                                                                                                                                    4999
                                                                                                                                                                                                                                                                                                                                                                                                 1285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4965
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4905
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               685
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       925
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      505
```

TITLE OF INVENTION: DNA encoding methymycin FILE REFERENCE: 600.438US1

and

pikromycin

```
; LENGTH: 13613
; TYPE: DNA
; ORGANISM: Streptomyces
US-09-860-846-3
日
                          Qy
                                                                     밁
                                                                                                    20
                                                                                                                                          뮹
                                                                                                                                                                          QΥ
                                                                                                                                                                                                               В
                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                      20
                                                                                                                                                                                                                                                                                                                                                           망
                                                                                                                                                                                                                                                                                                                                                                                       QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                  Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     γΩ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity Matches 1016; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQ ID NO 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CURRENT APPLICATION NUMBER: US/09/860,846 CURRENT FILING DATE: 2001-05-18 PRIOR APPLICATION NUMBER: 09/105,537 PRIOR FILING DATE: 1998-06-26 NUMBER OF SEQ ID NOS: 43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOFTWARE: FastSEQ for Windows Version
                                                                                                                                                                                                                 5237
                                                                                                                                                                                                                                                                                                                                                                                                                                  5081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4964
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4844
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4724
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4664 CCCTGGCCAGCACCTTCGACGACACCATGGCCGACAGCTACGGCAAGGTCATGGGCCGCG
                                                                                                                                                                                                                                                                                                                                                             5141 C---CCCGGGCACCGACGCCATCACCAAGGGCCTCGACCAGGAGATG-----
                                                                                                                                                                                                                                                                                                                          746
                                                                                                                                                                                                                                                                                                                                                                                               989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           566
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             206 CGCTCGGTTCCACATTCAACCAAACTCTGCTCGAAGAGGCAGGTAAGATGATGGGCAAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACGGTCGCGCGCTCAACCAGGACATGGTCCTGGGCCCGATGATGAACAACATCCGGGTGC
                                                                                                                                                                                                                                                                                                                                                                                CATACAGTACCACAGAAGCCGTTGTGGCAGGCCTCGACCTCGAGATGCCCGGACCTCCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGGCCAACAACCAGGAGAACAACCGCTTCTCCGTGAACGCCAATGTCGACGAGCAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGGTCGCCCAGATCAAGGGCATCCAGGGTGCGGGTCTGATGACCACGGCCAAGCACTTCG
TCGCCGAGAACGGCGCGCTGCTCCTGCGCAACGAGGGCCAGGCCCTGCCGCTGCCGGTG
                               AGAAGAAGAAGACGCTGATTGTCGGCCCCAACGCCAAGCAGGCCACATACCACGGCGGAG 1045
                                                                   CCACTCCGGCGCGCGGGCGAGGCGCGACAAGGCGGGTGCCCAGGCGGTGTCCCGCAAGG
                                                                                                      AGGTTGGCAACGAGGGCATCGTGCTGCTGAAGAACGAGAACAACGTTCTGCCCCTTGAGCA
                                                                                                                                                                            CGGAGAACGGCCCCGAGACGACTGTCAACAACACCCCCGAAACGGCAGCTCTCCTCCGGA 925
                                                                                                                                                                                                                   AGTTCTTCGGCGA----GGCGCTGAAGACGGCCGTCCTGAACGGCACGGTCCCCGAGGCGG
                                                                                                                                                                                                                                                                                                                          GCTTCCGAGGAGAAACACTCAAGTTCAACGTCTCCAACGGAAAGCCCTTTATCCACGTCA 805
                                                                                                                                                                                                                                                                                                                                                                                                                                ACAACGTGCTGCGCACGCAGTGGGGCTTCCAGGGCTGGGTGATGTCCGACTGGCTCGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCATGTGTGCCTACAACGGCCTCAACGGGAAGCCGTCCTGCGGCAACGACGAGCTCCTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCATGACGGCGTACAATGGCATCAATGGCGTGTCGTGCAGCGAGAACCCTAAATATCTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCCGTGAAATCTACGCACTCCCGTTCCAGATTGCTGTGCGAGACTCCCCAGCCGGGTGCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGTGCAATGATCAGGAGGACAGGCGCATGATGGTGCAGAGCATCGTCACGGAGCGGCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTGCGGCTCTCATCCGCGGCATTCAGAGCACTGGAGTGCAGGCTACGATCAAGCACTTTT 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGCACGGCGGCCGGAACTACGAGACCTTCAGCGAGGACCCCCTGGTCTCCTCGCGCACCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTCTCGGTGGACGTGGCTTCGAGTCGATTGGTGAGGATCCGTTCCTGGCGGGCTTGGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGGCCATCGCTAAGAGTGCGCATGTGATCCTCGGCCCGACTATCAACATGCAACGCTCCC
                                                                                                                                          CCGTGACGCGGTCGGCCGGAGCGGATCGTCGGCCAGATGGAGAAGTTCGGTCTGCTCCTCG
                                                                                                                                                                                                                                                   TTGACCAGAGGGCTAGGGAAGTTCTTCAGTTCGTCAAGAAGTGTGCTGCCTCCGGAGTGA 865
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATGGGATGCTTCGAAAGGAATGGGGTTGGGATGGCCTAATCATGAGCGACTGGTACGGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCCGCGAGATCGAGTTCCCGGCGTTCGAG---GCGTCCTCCAAGGCCGGCCGCCCTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                        7.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      venezuelae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 175.2; DB 9
Pred. No. 1.9e-38;
0; Mismatches 968
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ); e ad
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 13613
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                          5236
 5473
                                                                       5413
                                                                                                                                               5353
                                                                                                                                                                                                                                                                                                                                                                                                                                    5140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4723
                                                                                                          985
                                                                                                                                                                                                                                                                                                                                                               5184
                                                                                                                                                                                                                                                                                                                                                                                                 745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        685
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 11;
```

```
õ
                                                                                                                                        Ωy
                                                                                                                                                                                                         ρy
                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                           QΥ
                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q
          QY
                                             В
                                                                                                             망
                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             γQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Вp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                 5579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5399
                                                                                                              5819
                                                                                                                                              2174
                                                                                                                                                                                                                                                5699
                                                                                                                                                                                                                                                                                                                 5639
                                                                                                                                                                                                                                                                                                                                                  1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                 5519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5132
                                                                                                                                                                                                                                                                                                                                                                                                                  1946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1586
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACAAGTTCAAGATCGAGTTCGGCTCCGCACCCACCTACACCCTCAAGGGCGACACCATCG 1585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCATCGAGGCCGGTCAGGTCTACGGCAAGGTGAGCAGCCCGCTCCTCAAGCTGACCAAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCTTCGGCTCCGCCACCCGCGAGGAGACGGGCCGCATCAATCTCGTCAAGGGCAACACGT 1525
TCGAACTGCAGCCCGGCGAGACGAAGGCGGTGAC
                                                                                                                                              CCCTCTCCGTGAAGAACACCGGCTCCGTGCCCGGCGCACAGGTGGCCCAGCTCTACGTCA
                                                                                                                                                                                                                                               GCTGGTTCGACAAGGAGAACGTCAAGCCGCTGTTCCCGTTCGGGCACGGCCTGTCGTACA
                                                                                                                                                                                                                                                                GGTACTACGAGTTTGCCGACAAGGACGTCAATTTCCCCTTTTGGCCACGGCCTGTCCTACA
                                                                                                                                                                                                                                                                                                                 CAAGCTACCCGGGCGTCGACAACCAGCAGACGTACCGCGAGGGCATCCACGTCGGGTACC
                                                                                                                                                                                                                                                                                                                                                                                                                  GCAAGCTGTCCCTCAGCTTCCCC------AAGCGCCTGCAGGACAACCCCGCGTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCGGCAACGAGACGGGCAACTCCATTGCCGACGTCGTCTTTGGCGACTACAACCCCCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCCCCGGCCACGGCTCCGCGTCGGCGGCTGCAAGGTCATTGACGACCAGGCCGAAA 1645
                                             GTGCCAGCCCGAACGTGACGGCTCCGCAGGCGAAGAAGAAGCTCGTGGGCTACACGAAGG
                                                                              AGCCCCTCCAAGCGGCCAAGATTAACCGCCCCGTCAAGGAGCTCAAGGGCTTCGCAAAGG
                                                                                                              CGGTCACGGTCCGCAACAGCGGGAAGCGCCGCCCGGCCAGGAGGTCGTCCAGGCGTACCTCG
                                                                                                                                                                                CCTCGTTCACGCAGAGCGCCCCGACCGTCGTGCGTACGTCCACGGGTGGTCTGAAGGTCA
                                                                                                                                                                                                   CCACTTTTGCCTTTTCCAATCTCTCCGTGTCTCACAAGGAC----GGCAAGCTGAGCGTGT
                                                                                                                                                                                                                                                                                                                                              TCAACTTCCGCACCGAGGCCGGGCGCACGCTGTACGGCGAGGACGTCTACGTCGGGTACA
                                                                                                                                                                                                                                                                                                                                                                                 GCAAGCTCACGCAGAGCTTCCCGGCCGCCGAGAACCAGCACGCGGTCGCCGGCGACCCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGGGCCAGGCGGGCGCCGAGGCCACCGCCGCGCTGCTCTACGGTGACGTCAACCCGAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACAAGCTGATCTCGGCTGTCGCGGACGCCAACCCGAACACGATCGTGGTCCTCAACACCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCAGCTCATTGCCGACGTGGCCGCGCGAACCCCAAACACCCGTCGTCGTCATGCAGACGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACGCCGACTGGGAGACCGAGGGCGCGACCGCGAGCATGAAGCTCCCCGGCGTGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCGCGAAGGCCGTGGAGTCGGCGCGGAAGGCCCGTACGGCGGTCGTCTTCGC------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCGAAAAGTCCGTCGCCTCGCCAAGGAGCACGACCAGGTCATCATCTGCGCGGGCCTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTGCCACCCCGCTCTCCCTGGAGCTGGGCTGGGTGACGCCGGCGGCGGCCGACGCGACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCACGCACAAGCT - -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 - CTACGACGACGGCACCGAGGGCGTCGACCGTCCGAACCTGTCGCTGCCGGGTACGCAGG
             2327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -CACGATCTCGGGCTTCGCGATGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ---CTCGGCAGCCACA 5131
                                                                                                                                               2233
                                                                                                                                                                                                                                               5758
                                                                                                                                                                                                                                                                                                                                                                                 5638
                                                                                                                                                                                                                                                                                                                                                                                                                  1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1945
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1885
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1765
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5227
                                                5938
                                                                               2293
                                                                                                              5878
                                                                                                                                                                                5818
                                                                                                                                                                                                              2173
                                                                                                                                                                                                                                                                                2116
                                                                                                                                                                                                                                                                                                                 5698
                                                                                                                                                                                                                                                                                                                                                2056
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5518
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5191
                                                                                                                                                                                                                                                                                                                                                                                                                                                 5578
```

..

GENERAL INFORMATION:

APPLICANT: Sherman, D.H.
APPLICANT: Liu, H.
APPLICANT: Xue, Y.
APPLICANT: Zhao, L.

Sequence 3, Application US/09860846 Patent No. US20020164742A1

RESULT 5 US-09-860-846-3 밁

5939

TCTCGCTCGCCGCGGGCGAGGCGAAGACGGTGAC

5972

```
В
                               Q
                                                                   Дb
                                                                                                   Qy
                                                                                                                                           В
                                                                                                                                                                         Q
                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                   뭥
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                     6027
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5915
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5819
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5747
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1106
                                                                                                                                             6266
                                                                                                                                                                              1946
                                                                                                                                                                                                                                                    1886
                                                                                                                                                                                                                                                                                        6146
                                                                                                                                                                                                                                                                                                                           1826
                                                                                                                                                                                                                                                                                                                                                               6086
                                                                                                                                                                                                                                                                                                                                                                                                 1766
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5975
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5879
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5806
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5687
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5653
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5533
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1046
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACACCGCCGACGAGGACTGCACCTACGAGCTCGGCCTCGTCGTCGTCGCGGCACGGCAAAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCTGGTTCGACAAGGAACGTCAAGCCGCTGTTCCCGTTCGGGCACGGCCTGTCGTACA
                  GGTACTACGAGTTTGCCGACAAGGACGTCAATTTCCCCTTTGGCCACGGCCTGTCCTACA
                                                                                                                                                                           GCAAGCTGTCCCTCAGCTTCCCC-----AAGCGCCTGCAGGACAACCCCGCGTTTC
                                                                                                                                                                                                                                                  GCGGCAACGAGACGGCCAACTCCATTGCCGACGTCGTCTTTGGCGACTACAACCCCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTGCCACCCCGCTCTCCCTGGAGCTGGGCTGGCTGACGCCGGCGGCGGCCGACGCGACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCACGCACAAGCT-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACAAGTTCAAGATCGAGTTCGGCTCCGCACCCACCTACACCCTCAAGGGCGACACCATCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCTTCGGCTCCGCCACCCGCGAGGAGACGGGCCGCATCAATCTCGTCAAGGGCCAACACGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGTACGTAGACGACCAGCTCGTCGTCGACAACGCCACCAAGCAGGTCCCCGGCGATGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTGGTACCCCTAACCGCCAGCACATTGACGAGCTCTTCTTCACCAAGACGGACATGCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGCGCGGGTGCGGGTGACGGTGACGTACGAGACGGGTGAGGAGACCTTCGGGACGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACGCCGGCAAGAGCATCGCGGTCATCGGCCCGACGGCCGTCGAC-CCCAAGGTCACCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCCCCGGCCACGGCTCCCCTCCGCGTCGGCGGCTGCAAGGTCATTGACGACCAGGCCGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCATCGAGGCCGGTCAGGTCTACGGCAAGGTGAGCAGCCCGCTCCTCAAGCTGACCAAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCGCCGACGGCGAGTACCGCATCGCGGTCCGTGCCACCGGTGGTTACGCCACGGTGCAG-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGGTGGACTACCACCCCAAGGCGGCAGACACGTGGTACGCCGACATGGAGGGCACGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATCCCGGCGGGAACCTCAGC-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCGAGACGCCGCCATCGTACACCGTCGGCGCCCTACACCACCGTTCCTCCCATTCTAGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCAACTTCCGCACCGAGGCCGCGCGCGCGCTTTACGGCGAGGACGTCTACGTCGGGTACA
                                                                                                                                           GCAAGCTCACGCAGAGCTTCCCGGGCCGCCGAGAACCAGCACGCGGTCGCCGGCGACCCGA
                                                                                                                                                                                                                CGGGCCAGGCGGCGCGAGGCCACCGCGCGCGCTGCTCTACGGTGACGTCAACCCGAGCG
                                                                                                                                                                                                                                                                                        GTTCGTCGGTGCTGATGCCGTGGCTGTCCAAGACCCGCGCGCTCCTGGACATGTGGTACC
                                                                                                                                                                                                                                                                                                                        ACAAGCTGATCTCGGCTGTCGCGGACGCCAACCCGAACACGATCGTGGTCCTCAACACCG
                                                                                                                                                                                                                                                                                                                                                                                             ACCAGCTCATTGCCGACGTGGCCGCCGCGAACCCCAAACACCGTCGTCGTCATGCAGACGG
                                                                                                                                                                                                                                                                                                                                                                                                                                   -CTACGACGACGGCACCGAGGGCGTCGACCGTCCGAACCTGTCGCTGCCGGGTACGCAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACGCCGACTGGGAGACCGAGGCCCGAGCATGAAGCTCCCCGGCGTGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCGCGAAGGCCGTGGAGTCGGCGCGCGAAGGCCCGTACGGCGGTCGTCTTCGC-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCGAAAAGTCCGTCGCCCTCGCCAAGGAGCACGACCAGGTCATCATCTGCGCGGGCCTTA 1705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGGGCCACCAGCTCGAGCCGGGCAAGGCGGGGGGCGCTGTACGACGGCACGCTGACCGTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGCAGTGCCTCACGCCCGACGGCGTCCGGGCATGCGCTGGAGGGTCTTCAACGAGCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -----CCGGCGTTCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     --- CACGATCTCGGGCTTCGCGATGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ---CTCGGCAGCCACA
                                 2116
                                                                                                       2056
                                                                                                                                                                                                                                                    1945
                                                                                                                                                                                                                                                                                                                         1885
                                                                                                                                                                                                                                                                                                                                                                                               1825
                                                                                                                                                                                                                                                                                                                                                                                                                                   6085
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5878
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5746
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1105
6445
                                                                     6385
                                                                                                                                                                            1996
                                                                                                                                                                                                                6265
                                                                                                                                                                                                                                                                                        6205
                                                                                                                                                                                                                                                                                                                                                             6145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        6026
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5974
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5914
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5686
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1285
```

ρ

Q 밁 ρ δÃ

δÃ 멍 δõ 밁 δÃ δÃ

Qγ

δã

Š

```
gg ;
δÃ
                                            Дb
                                                                               δÃ
                                                                                                                           Дb
                                                                                                                                                                  Q
                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ΩV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-09-861-289-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-861-289-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
APPLICANT: Sherman, D.H.
APPLICANT: Liu, H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
Matches 1016; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOFTWARE: FastSEQ for Windows Version SEQ ID NO 3
LENGTH: 13613
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 3, Application US/09861289 Patent No. US20020110897A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Liu, H.
APPLICANT: Xue, Y.
APPLICANT: Zhao, Y.
APPLICANT: Zhao, L.
TITLE OF INVENTION: DNA encoding methymycin and pikromycin
FILE REFERENCE: 600.438US1
CURRENT FILING ATTE: 2001-05-18
CURRENT FILING DATE: 2001-05-18
PRIOR APPLICATION NUMBER: 09/105,537
PRIOR APPLICATION NUMBER: 09/105,537
PRIOR FILING DATE: 1998-06-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NUMBER OF SEQ ID NOS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM: Streptomyces venezuelae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: DNA
                                                                                                                                                                                                               4904
                                                                                                                                                                                                                                                                                                  4844
                                                                                                                                                                                                                                                                                                                                                                                  4784
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              6626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  6446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4664 CCCTGGCCAGCACCTTCGACGACACCATGGCCGACAGCTACGGCAAGGTCATGGGCCGCG 4723
  626 ATGGGATGCTTCGAAAGGAATGGGGTTGGGATGGCCTAATCATGAGCGACTGGTACGGCA 685
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           266 AGGCCATCGCTAAGAGTGCGCATGTGATCCTCGGCCCGACTATCAACATGCAACGCTCCC 325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 206 CGCTCGGTTCCACATTCAACCAAACTCTGCTCGAAGAGGCAGGTAAGATGATGGGCAAAG 265
                                                                    TCATGACGGCGTACAATGGCATCAATGGCGTGTGTGTGCAGCGAGAACCCTAAATATCTTG
                                                                                                                                                                                                                                       TGTGCAATGATCAGGAGGACAGGCGCATGATGGTGCAGAGCATCGTCACGGAGCGGCTC
                                                                                                                                                                                                                                                                                                                                                                                    CGCACGGCGGCCGGAACTACGAGACCTTCAGCGAGGACCCCCTGGTCTCCTCGCGCACCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCCTCTCCGTGAAGAACACCGGCTCCGTGCCCGGCGCACAGGTGGCCCAGCTCTACGTCA
                                              TCATGTGTGCCTACAACGGCCTCAACGGGAAGCCGTCCTGCGGCAACGACGAGCTCCTCA 5080
                                                                                                                             TCCGCGAGATCGAGTTCCCGGCGTTCGAG----GCGTCCTCCAAGGCCGGCGCGCCTCCT
                                                                                                                                                     TCCGTGAAATCTACGCACTCCCGTTCCAGATTGCTGTGCGAGACTCCCAGCCGGGTGCGT
                                                                                                                                                                                                               CGGCCAACAACCAGGAGAACAACCGCTTCTCCGTGAACGCCAATGTCGACGAGCAGACGC
                                                                                                                                                                                                                                                                                                  CGGTCGCCCAGATCAAGGGCATCCAGGGTGCGGGTCTGATGACCACGGCCAAGCACTTCG
                                                                                                                                                                                                                                                                                                                          CTGCGGCTCTCATCCGCGGCATTCAGAGCACTGGAGTGCAGGCTACGATCAAGCACTTTT 445
                                                                                                                                                                                                                                                                                                                                                                                                                         CTCTCGGTGGACGTGGCTTCGAGTCGATTGGTGAGGATCCGTTCCTGGCGGGCTTGGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACGGTCGCGCGCTCAACCAGGACATGGTCCTGGGCCCGATGATGAACAACATCCGGGTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCTCGCTCGCCGCGGGCGAGGCGAAGACGGTGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCGAACTGCAGCCCGGCGAGACGAAGGCGGTGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GTGCCAGCCCGAACGTGACGGCTCCGCAGGCGAAGAAGAAGCTCGTGGGCTACACGAAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGCCCCTCCAAGCGGCCAAGATTAACCGCCCCGTCAAGGAGCTCAAGGGCTTCGCAAAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCTCGTTCACGCAGAGCGCCCCGACCGTCGTGCGTACGTCCACGGGTGGTCTGAAGGTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCACTTTTGCCTTTTCCAATCTCTCCGTGTCTCACAAGGAC----GGCAAGCTGAGCGTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGGTCACGGTCCGCAACAGCGGGGAAGCGCCGGCCCAGGAGGTCGTCCAGGCGTACCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            7.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 175.2; DB 1
Pred. No. 1.9e-38;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches 968;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              6659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 13613;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          150;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                  4903
                                                                                                                                                                                                                                                                                                                                                                                    4843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 6625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2233
                                                                                                                                                                         565
                                                                                                                                                                                                                 4963
                                                                                                                                                                                                                                                        505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   6565
                                                                                                                               5020
                                                                                                                                                                                                                                                                                                                                                                                                                              385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          11;
```

```
Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                    Ş
                                                           В
                                                                                            Qy
                                                                                                                                          В
                                                                                                                                                                             δÃ
                                                                                                                                                                                                                        망
                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                          γ
                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5414
1706 ACGCCGACTGGGAGACCGAGGCGCGGCGGGCGAGCATGAAGCTCCCCGGCGTGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5653
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1046
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5081 ACAACGTGCTGCGCACGCAGTGGGGCTTCCAGGGCTGGGTGATGTCCGACTGGCTCGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                        1406 CGTACGTAGACGACCAGCTCGTCGTCGACAACGCCACCAAGCAGGTCCCCGGCGATGCCT 1465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1346 ACACCGCCGACGAGGACTGCACCTACGAGCTCGGCCTCGTCGTCCGCGCACGGCAAAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5474 ACGCCGGCAAGAGCATCGCGGTCATCGGCCCGACGGCCGTCGAC-CCCAAGGTCACCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5141 C---CCCGGGCACCGACGCCATCACCAAGGGCCTCGACCAGGAGATG------
                                                                                                                                                                                                                                                               1526 ACAAGTTCAAGATCGAGTTCGGCTCCGCACCCACCTTCAAGGGCGACACCATCG 1585
                                                                                                                                                                                                                                                                                                                                            1466 TCTTCGGCTCCGCCACCCGCGAGGAGACGGGCCGCATCAATCTCGTCAAGGGCAACACGT 1525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1166 AGCAGTGCCTCACGCCCGACGGCGCTCCGGGCATGCGCTTGGAGGGTCTTCAACGAGCCCC 1225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5533 CTGGGCAGCGCCACGTCGTCCCGGACTCGGCGGCGCCCCCCTCGACACCATCAAGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5354 CCACTCCGGCGCGCGGCCGAGCGAGCAAGGCGGGTGCCCAGGCGGTGTCCCGCAAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              686 CATACAGTACCACAGAAGCCGTTGTGGCAGGCCTCGACCTCGAGATGCCCGGACCTCCAC
                                                                                                                                          CCATCGAGGCCGGTCAGGTCTACGGCAAGGTGAGCAGCCCGCTCCTCAAGCTGACCAAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGGGCCACCAGCTCGAGCCGGGCAAGGCGGGGGGGGGCGCTGTACGACGGCACGCTGACCGTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTGGTACCCCTAACCGCCAGCACATTGACGAGCTCTTCTTCACCAAGACGGACATGCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCGAGACGCCGCCATCGTACACCGTCGGCGCCTACACCACCGTTCCTCCCATTCTAGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCGCCGAGAACGGCGCGCGCTCCTGCGCAACGAGGGCCAGGCCCTGCCGCTCGCCGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCTTCCGAGGAGAAACACTCAAGTTCAACGTCTCCAACGGAAAGCCCTTTATCCACGTCA 805
                                                                                                   TCGAAAAGTCCGTCGCCCTCGCCAAGGAGCACGACCAGGTCATCATCTGCGCGGGCCTTA 1705
                                                                                                                                                                               TCCCCGGCCACGGCTCCCTCCGCGTCGGCGGCTGCAAGGTCATTGACGACCAGGCCGAAA 1645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGGTGGACTACCACCCCAAGGCGGCAGACACGTGGTACGCCGACATGGAGGCCACGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGGTTGGCAACGAGGGCATCGTGCTGCTGAAGAACGAGAACAACGTTCTGCCCTTGAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCGTGACGCGGTCGGCGGAGCGGATCGTCGGCCAGATGGAGAAGTTCGGTCTGCTCCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGGAGAACGGCCCCGAGACGACTGTCAACAACACCCCCGAAACGGCAGCTCTCCTCCGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGTTCTTCGGCGA----GGCGCTGAAGACGGCCGTCCTGAACGGCACGGTCCCCGAGGCGG
                                                             TCGCGAAGGCCGTGGAGTCGGCGCGGAAGGCCCGTACGGCGGTCGTCTTCGC------
                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCGCCGACGGCGAGTACCGCATCGCGGTCCGTGCCACCGGTGGTTACGCCACGGTGCAG-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGCGCGGGTGCGGACGGTGACGTACGAGACGGGTGAGGAGACCTTCGGGACGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGAAGAAGAAGACGCTGATTGTCGGCCCCAACGCCAAGCAGGCCACATACCACGGCGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -GGCGTCGAGCTCCCCGGCGACGTCCCGAAGGGCGAGCCCTCGCCGCCGGCCA
                                                                                                                                                                                                                          -----CACGATCTCGGGCTTCGCGATGA 5914
                                                                                                                                                                                                                                                                                                                                                                                     ----CTCGGCAGCCACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            745
                                                             6026
                                                                                                                                            5974
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5746
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1045
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5140
                      1765
                                                                                                                                                                                                                                                                                                       5878
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5686
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5532
                                                                                                                                                                                                        3
```

```
, OTHER INFORMATION: Description of Artifical Sequence: Recombinant DNA US-09-808-880-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 7
US-09-808-880-1/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δã
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 1, Application US/09808880 Publication No. US20030027287A1 GENERAL INFORMATION:
                                                                                                                                      SOFTWARE: PatentIn Ver. SEQ ID NO 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Betlach, Mary C.
APPLICANT: Shah, Sanjay Krishnakant
APPLICANT: McDaniel, Robert
APPLICANT: Tang, Li
                                                                                                                                                                                                        PRIOR FILING DATE: 1999-02-16
PRIOR APPLICATION NUMBER: 60/2
PRIOR FILING DATE: 1998-10-29
                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION NUMBER: US/09/428,517 PRIOR FILING DATE: 1999-10-28
                                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: RECOMBINANT OLEANDOLIDE FILE REFERENCE: 30062-20029.00 CURRENT EPPLICATION NUMBER: US/09/808,880 CURRENT FILING DATE: 2001-03-14
                                                                                                                                                                                         NUMBER OF SEQ ID NOS: 12
                                                                                                                                                                                                                                                                                    PRIOR APPLICATION NUMBER:
                                                                  ORGANISM: Artificial Sequence
                                                                                            TYPE: DNA
                                              FEATURE:
                                                                                                              LENGTH: 50937
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        6027
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      6206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCCTCTCCGTGAAGAACACCGGGCTCCGTGCCCGGGCGCACAGGTGGCCCAGCTCTACGTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCAACTTCCGCACCGAGGCCGGGCGCGCACGCTGTACGGCGAGGACGTCTACGTCGGGTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TCTCGCTCGCCGCGGGGGGGGGGGAGGCGAAGACGGTGAC 6659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCGAACTGCAGCCCGGCGAGACGAAGGCGGTGAC 2327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGCCCCTCCAAGCGGCCAAGATTAACCGCCCCGTCAAGGAGCTCAAGGGCTTCGCAAAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCTCGTTCACGCAGAGCGCCCCGACCGTCGTCGTGCGTACGTCCACGGGTGGTCTGAAGGTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCTGGTTCGACAAGGAGAACGTCAAGCCGCTGTTCCCGGTTCGGGCACGGCCTGTCGTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCAAGCTGTCCCTCAGCTTCCCC-----AAGCGCCTGCAGGACAACCCCGCGTTTC 1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACCAGCTCATTGCCGACGTGGCCGCCGCGAACCCCAAACACCGTCGTCGTCATGCAGACGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGGTCACGGTCCGCAACAGCGGGAAGCGCGCCGGCCAGGAGGTCGTCCAGGCGTACCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCACTTTTGCCTTTTCCAATCTCTCCGTGTCTCACAAGGAC---GGCAAGCTGAGCGTGT 2173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CAAGCTACCCGGGCGTCGACAACCAGCAGACGTACCGCGAGGGCATCCACGTCGGGTACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGGGCCAGGCGGCGCGAGGCCACCGCCGCGCTGCTCTACGGTGACGTCAACCCGAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCGGCAACGAGACGGGCAACTCCATTGCCGACGTCGTCTTTGGCGACTACAACCCCCTCGG 1945
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTTCGTCGGTGCTGATGCCGTGGCTGTCCAAGACCCGCGCGGTCCTGGACATGTGGTACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACAAGCTGATCTCGGCTGTCGCGGACGCCAACCCGAACACGATCGTGGTCCTCAACACCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -CTACGACGACGCACCGAGGGCGTCGACCGTCCGAACCTGTCGCTGCCGGGTACGCAGG 6085
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTGCCAGCCCGAACGTGACGGCTCCGCAGGCGAAGAAGCTCGTGGGCTACACGAAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGTACTACGAGTTTGCCGACAAGGACGTCAATTTCCCCCTTTGGCCACGGCCTGTCCTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCAAGCTCACGCAGAGCTTCCCGGCCGCCGAGAACCAGCACGCGGTCGCCGGCGACCCGA 6325
                                                                                                                                                                                                                                                                                      60/120,254
                                                                                                                                                                                                                                                                                                                                                                                                                               POLYKETIDE SYNTHASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           6445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            6625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        6385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                6145
```

Best Local Similarity

54.0%;

Pred. No. 3.7e-28;

```
RESULT 8
US-10-121-032-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                Sequence 5, Application US/10121032 Patent No. US20020155550A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1770
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2817
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2877
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1830
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2937
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3057
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1950
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1890
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3297
              CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/10/121,032
FILING DATE: 09-Apr-2002
CLASSIFICATION: <Unknown>
                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
  PRIOR
                                                                                                                                                                                                                                                                                                                   CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                     TITLE OF INVENTION: GLYCOSIDASE ENZYMES NUMBER OF SEQUENCES: 72
                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Bylina, Edward J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCTGCGGCCGGGCGAGAGCAGGAGGCTGAACCCTGCACGTCGAGCGCCAGGGCCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACTGCAGCCCGGCGAGACGAAGGCGGTGACAATCGAGGAGCAGGAGAAGTACGTC 2352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTACGAGTTTGCCGACAAGGACGTCAATTTCCCCTTTGGCCACGGCCTGTCCTACACCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCTCATTGCCGACGTGGCCGCCGCGAACCCAAACACCGTCGTCGTCATGCAGACGGGCAC 1829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGACGACGGCTCGGAGGACGGGGACCGCACGTCGCTGTCCCTGCCCGGCCCAGGACGA 3358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGACTGGGAGACCGAGGCCGACCGCGAGCATGAAGCTCCCCGGCGTGCTGGACCA 1769
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GTCCCCGCACGTGCGGGTGGCGAGGCCAAGCGTGCCCTGGCGGCCTACGGGAAGGTCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCTCCAAGCGGCCAAGATTAACCGCCCCGTCAAGGAGCTCAAGGGCTTCGCAAAGGTCGA 2297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CACGCTGCGCAACACCGGTACGCGCACCGGCAAGGAGGTCCCGCAGGTCTACGTGGGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTCCGTGAAGAACACCGGCTCCGTGCCCGGCGCACAGGTGGCCCAGCTCTACGTCAAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTTCGACTACCGGGACCTGAAGGTGACGGCGACGGCGGACGGCGGGCTCGACGTCTGCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTTTGCCTTTTCCAATCTCTCCGTGTCTCACAA----GGACGGCAAGCTGAGCGTGTCCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTACGAACAGCAGGGCGTCCAGCCGCTGTTCTCCTTCGGCCACGGGTTGTGCTACACCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTACCCGGGAGTCGATGACCAACTGGACTACTCCGAGGGCATCTACTCCGGCTACCGCTG 3058
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCGCACCGAGGCCGGGCGCACGCTG---TACGGCGAGGACGTCTACGTCGGGTACAGGTA 2060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCTGACCCAGACCTTCCCCGGCCGACGAGGGGCAGACGCCGTTCGCCGGGGACGCCAGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCTGTCCCTCAGCTTCCC-----CAAGCGCCTGCAGGACAACCCCGCGTTTCTCAACTT 2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCAGGCCGGCGCCGAGCGACCACCGCCCTGCTGTTCGGCGACGCCGACCCCAGGAGGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAACGAGACGGCCAACTCCATTGCCGACGTCGTCTTTGGCGACTACAACCCCCTCGGGCAA 1949
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTCCCTCACCATGCCTGAGGAAGACCGCCGCGGTGCTCACCATGTGGTACCCGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCCCGAGGAGATGCCCTGGCTCGACGCCACGCCCGTCATCCAGGCCTGGTACGGCGG 1889
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCTGATCAGCGCCGTGGCCGCGGTCAACCCACGGACCGTGGTGGTGCTCAACACGGGCTC
                                                                                         COMPUTER: IBM Compatible
OPERATING SYSTEM: Windows95
SOFTWARE: FASTSEQ for Windows Version
                                                                                                                                                                                              COUNTRY: USA
ZIP: 92121
                                                                                                                                                                                                                                      STATE: CA
                                                                                                                                                                                                                                                    CITY: San Diego
                                                                                                                                                                                                                                                                           STREET: 4365 Executive Drive, Suite 1600
                                                                                                                                                                                                                                                                                          ADDRESSEE: Gray Cary Ware & Freidenrich LLP
  APPLICATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches 289;
                                                                                               2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2878
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2938
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ω
```

RESULT 9 US-10-093-037-5

Sequence 5, Application US/10093037 Publication No. US20030078397A1 GENERAL INFORMATION:

APPLICANT: Jay M. Short

```
;
dd
                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                    뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
Дb
                              Qy
                                                                       Дb
                                                                                                                                            밁
                                                                                                                                                                             Qy
                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-10-121-032-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEFAX: 858/677-1465
INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
738
                                                                                                                                                                                   567
                                                                                                                                                                                                                       558
                                                                                                                                                                                                                                                          507
                                                                                                                                                                                                                                                                                              498
                                                                                                                                                                                                                                                                                                                                 447
                                                                                                                                                                                                                                                                                                                                                                      438
                                                                                                                                                                                                                                                                                                                                                                                                        387
                                                                                                                                                                                                                                                                                                                                                                                                                                             378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              207 GCTCGGTTCCACATTCAACCAAACTCTGCTCGAAGAGGCAGGTAAGATGATGGGCAAAGA 266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE DESCRIPTION: SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE/DOCKET NUMBER: TELECOMMUNICATION INFORMATION: 858/677-1456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATTORNEY/AGENT INFORMATION:
NAME: Haile, Lisa A.
REGISTRATION NUMBER: 38,347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MOLECULE TYPE: Genomic DNA
                                                                                                                                                                                 CATGACGGCGTACAATGGCATCAATGGCGTGTCGTGCAGCGAGAACCCCTAAATATCTTGA 626
                                                                                                                                                                                                                                                                                                                                                                                                                                             TCTTTGTGGAAGGAATTTCGAGTACTACTCAGAAGATCCTGTCCTTTCCGGTGAAATGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGTTAGGGAATACGGTGTCGATGTGCTTCTTGCACCTGCGATGAACATTCACAGAAACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGCCATCGCTAAGAGTGCGCATGTGAATCCTCGGCCCGACTATCAACATGCAACGCTCCCC 326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCTCGCTTCTACCTGGAACAGAGCCTTCTGGAAGAAGTGGGAAAAGCCATGGGAGAAGA 317
AGACAACCCTGTAGAACAGCTCAAGGCCGGAAACGATATGATCATGCCTGG
                              ATACAGTACCACAGAAGCCGTTGTGGCAGGCCTCGACCTCGAGATGCCCGG 737
                                                                       GAAGGTTCTCAGGGAAGAATGGGGATTTGGCGGTTTCGTGATGAGCGACTGGTACGCGGG
                                                                                                        TGGGATGCTTCGAAAGGAATGGGGTTGGGATGGCCTAATCATGAGCGACTGGTACGGCAC 686
                                                                                                                                              GATGAGCGCTTACAACAAACTGAATGGAAAATACTGTTCACAGAACGAATGGCTTTTGAA
                                                                                                                                                                                                                     CAGAGAAATATATCTGAAAGGTTTTGAAATTGCTGTCAAGAAAGCAAGACCCTGGACCGT
                                                                                                                                                                                                                                                      CCGTGAAATCTACGCACTCCCGTTCCAGATTGCTGTGCGAGACTCCCAGCCGGGTGCGTT 566
                                                                                                                                                                                                                                                                                              GTGCAATGATCAGGAGGACAGGCGCATGATGGTGCAGAGCATCGTCACGGAGCGGCTCT 506
                                                                                                                                                                                                                                                                                                                                                                      TTCAGCCTTTGTCAAGGGAGTTCAATCTCAAGGGGTGGGAGCCTGCATAAAACACTTTGT
                                                                                                                                                                                                                                                                                                                                                                                                      TGCGGCTCTCATCCGCGGCATTCAGAGCACTGGAGTGCAGGCTACGATCAAGCACTTTTT 446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCTCGGTGGACGTGGCTTCGAGTCGATTGGTGAGGATCCGTTCCTGGCGGCCTTGGGAGC 386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 284;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: nucleic acid
STRANDEDNESS: double
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: 60/056,916 FILING DATE: 06-DEC-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: 08/949,026 FILING DATE: 10-OCT-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LENGTH: 2166 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: US/09/134,078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  53.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Coding Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          13-AUG-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 135.8; DB 9
Pred. No. 9.8e-28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            09010/024002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     247;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 2166;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                     617
                                                                         737
                                                                                                                                                677
                                                                                                                                                                                                                                                                                                557
                                                                                                                                                                                                                                                                                                                                                                      497
                                                                                                                                                                                                                                                                                                                                                                                                                                             437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    377
```

0,

```
Q
                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                               Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20
                                                                                                                                  us-09-790-399-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-10-093-037-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRIOR APPLICATION NUMBER: US 09/910,579
PRIOR FILING DATE: 2001-07-20
PRIOR APPLICATION NUMBER: US 09/134,078
PRIOR FILING DATE: 1998-08-13
PRIOR FILING DATE: 1998-08-13
PRIOR APPLICATION NUMBER: US 08/949,026
PRIOR FILING DATE: 1997-10-10
PRIOR APPLICATION NUMBER: US 60/056,916
PRIOR APPLICATION NUMBER: US 60/056,916
PRIOR APPLICATION NUMBER: US 60/056,916
                                         APPLICANT: Gold, La.
                                                                                       Sequence 7, Application US/09790399 Patent No. US20020038000A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 5.4%;
Best Local Similarity 53.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQ ID NO 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CURRENT APPLICATION NUMBER: US/10/093,037
CURRENT FILING DATE: 2002-03-06
                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQ ID NOS: 72
SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION: ENZYMES HAVING GLYCOSIDASE ACTIVITY AND METHODS FILE REFERENCE: 09010-024006
  APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: DNA
ORGANISM: Thermotoga maritima
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH:
                                                                                                                                                                                                                            738
                                                                                                                                                                                                                                                                   687 ATACAGTACCACAGAAGCCGTTGTGGCAGGCCTCGACCTCGAGATGCCCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                 567 CATGACGGCGTACAATGGCATCAATGGCGTGTCGTGCAGCGAGAACCCTAAATATCTTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      507 CCGTGAAATCTACGCACTCCCGTTCCAGATTGCTGTGCGAGACTCCCAGCCGGGTGCGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    438 TTCAGCCTTTGTCAAGGGAGTTCAATCTCAAGGGGTGGGAGCCTGCATAAAACACTTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              378 TCTTTGTGGAAGGAATTTCGAGTACTACTCAGAAGATCCTGTCCTTTCCGGTGAAATGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   318 AGTTAGGGAATACGGTGTCGATGTGCTTCTTGCACCTGCGATGAACATTCACAGAAACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            267 GGCCATCGCTAAGAGTGCGCATGTGATCCTCGGCCCGACTATCAACATGCAACGCTCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        258 GCTCGCTTCTACCTGGAACAGAGCCTTCTGGAAGAAGTGGGAAAAGCCATGGGAGAAGA 317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   207 GCTCGGTTCCACATTCAACCAAACTCTGCTCGAAGAGGCAGGTAAGATGATGGGCAAAGA 266
                                                                                                                                                                                                                         AGACAACCCTGTAGAACAGCTCAAGGCCGGAAACGATATGATCATGCCTGG
                                                                                                                                                                                                                                                                                                                 GAAGGTTCTCAGGGAAGAATGGGGGATTTGGCGGTTTCGTGATGAGCGACTGGTACGCGGG
                                                                                                                                                                                                                                                                                                                                                            TGGGATGCTTCGAAAGGAATGGGGTTGGGATGGCCTAATCATGAGCGACTGGTACGGCAC 686
                                                                                                                                                                                                                                                                                                                                                                                                        GATGAGCGCTTACAACAAACTGAATGGAAAATACTGTTCACAGAACGAATGGCTTTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAGAGAAATATATCTGAAAGGTTTTGAAATTGCTGTCAAGAAAGCAAGACCCTGGACCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTGCAATGATCAGGAGGACAGGCGCATGATGGTGCAGAGCATCGTCACGGAGCGGGCTCT 506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGCGGCTCTCATCCGCGCATTCAGAGCACTGGAGTGCAGGCTACGATCAAGCACTTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCTCGGTGGACGTGGCTTCGAGTCGATTGGTGAGGATCCGTTCCTGGCGGGCTTGGGAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            284;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Swanson, Ronald
Mathur, Eric J.
Pribnow, David
                      Tuerk, Craig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                             Larry
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       David E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ronald V.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 135.8; DB 9;
Pred. No. 9.8e-28;
0; Mismatches 247;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 2166;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                      626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                437
                                                                                                                                                                                                                                                                                                                                                                                                        677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     USE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δõ
                                                                                                                                                                                                                         US-09-748-033-2
                                                                                                                                                                                                                                            RESULT 11
                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         us-09-790-399-7
                                                                                                                               GENERAL INFORMATION:
APPLICANT: Broadway, Roxanne M.
APPLICANT: Gongora, Carmenza E
                                                                                                                                                                                       Sequence 2, Application US/09748033 Patent No. US20020069431A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches 190;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQ ID NO 7
LENGTH: 390
                                                                      APPLICANT: GONGOTA, CAIMENZA E.
TITLE OF INVENTION: EFFECT OF ENDOCHITINASE AND CHITOBIOSIDASE AND THEIR
TITLE OF INVENTION: ENCODING GENES ON PLANT GROWTH AND DEVELOPMENT
FILE REFERENCE: 19603/3091
                                    CURRENT APPLICATION NUMBER: US/09/748,033
CURRENT FILING DATE: 2000-12-22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR APPLICATION NUMBER: 07/561,968
PRIOR FILING DATE: 1990-08-02
NUMBER OF SEQ ID NOS: 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATIÓN NUMBER: 07/829,461
PRIOR FILING DATE: 1992-01-31
PRIOR APPLICATION NUMBER: 07/739,055
PRIOR FILING DATE: 1991-08-01
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR APPLICATION NUMBER: 09/197,649 PRIOR FILING DATE: 1998-11-23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CURRENT FILING DATE: 2001-02-22
PRIOR APPLICATION NUMBER: 60/172,003 PRIOR FILING DATE: 1999-12-23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Smith, Jonathan D.
TITLE OF INVENTION: Systematic Polypeptide Evolution by Reverse Translation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE: Patentin Ver.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILE REFERENCE: NEX02/C1-CON2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OTHER INFORMATION:
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LENGTH:
                                                                                                                                                                                                                                                                                                                                      1683 GGTCAT 1688
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1443 CAAGCAGGTCCCCGGCGATGCCTTCTTCGGCTCCGCCACCCGCGAGGAGACGGGCCGCAT 1502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1383 CGTCGTCTGCGGCACGGCAAAGGCGTACGTAGACGACCAGCTCGTCGTCGACAACGCCAC 1442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1323 GTACGCCGACATGGAGGGCACGTACACCGCCGACGAGGACTGCACCTACGAGCTCGGCCT 1382
                                                                                                                                                                                                                                                                                                                                                                          308
                                                                                                                                                                                                                                                                                                                                                                                                                                                248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               128
                                                                                                                                                                                                                                                                                                   368 CGCCAT 373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GGTCATTGACGACCAGGCCGAAATCGAAAAGTCCGTCGCCCTCGCCAAGGAGCACGACCA 1682
                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Description of Artificial Sequence: Sequence having a 120 repeat of ACG flanked by fixed fragments having NcoI restriction sites.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3.4%;
51.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 84.4; DB 1 Pred. No. 1.1e-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches 176;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                              367
                                                                                                                                                                                                                                                                                                                                                                                                                                                    307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           247
```

0

NUMBER OF SEQ ID NOS:

SEQ ID

NO 2

SOFTWARE:

PatentIn

Ver.

밁

1103 GGACT 1107

```
; LENGTH: 1294
; TYPE: DNA
; ORGANISM: Streptomyces albidoflavus
US-09-748-033-2
 Ş
                                   맑
                                                             δÃ
                                                                                                    밁
                                                                                                                                 δÃ
                                                                                                                                                                        밁
                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                           Ъ
                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                            Вb
                                                                                                                                                                                                                                                                                                                                                                                                        õ
                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ΔÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1704
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1524
 2124
                                   1043
                                                                     2064
                                                                                                                                      2004
                                                                                                                                                                                                       1944
                                                                                                                                                                                                                                                                           1884
                                                                                                                                                                                                                                                                                                                                            1824
                                                                                                                                                                                                                                                                                                                                                                                                              1764
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1644
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1224 CCCTGGTACCCCTAACCGCCAGCACATTGACGAGCTCTTCTTCACCAAGACGGACATGCA 1283
                                                                                                                                                                                                                                                                                                                                                                                                                                              683
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 623
                                                                                                      983
                                                                                                                                                                        923
                                                                                                                                                                                                                                                                                                           803
                                                                                                                                                                                                                                                                                                                                                                              743
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    563
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Sin
                                                                                                                      CCGCACCGAGGCCGGGCGCACGCTGTACGGCGAGGACGTCTACGTCGGGTACAGGTACTA 2063
                                                                                                                                                                                                                                                                                                                                                                            CAACTCCACCTACATGACCGAGGCCCTCACCAAGCTCCACGAGAAGGCCCGGGGACGGCCT 802
                                                                                                                                                                                                                                                                                                                                                                                               GGACCAGCTCATTGCCGACGTGGCCGCCGCGAACCACAAACACCGTCGTCGTCATGCAGAC 1823
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGAGAAGGGCGCGTCGCCGTCAACGACAGCGCCTCCGCCCAGCGCTTCGCCGACAGCGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTACAAGTTCAAGATCGAGTTCGGCTCCGCACCCACCTACACCCTCAAGGGCGACACCAT 1583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCTGGTGGACTACCACCCCCAAGGCGGCAGACACGTGGTACGCCGACATGGAGGGCAC 1343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGCCT 2128
                                   CGCCTCCCGAAGGCGGCGGCGGCGGCTACGTCGAGCCCTCCGTGGTCAACGACGCGCT
                                                                 CGAGTTTGCCGACAAGGACGTCAATTTCCCCTTTGGCCACGGCCTGTCCTACACCACTTT 2123
                                                                                                    GCTCGCCTGCATCCAGCTGGAGAACGGTCTCGACGCCTCCCAGGTCGGCATCGGTGTCCC
                                                                                                                                                                    CTCGATGCTCGGCTGCGACGGCCAGGTCTACGCGCAGGGCACCGTCGACTTCCTCACCGC
                                                                                                                                                                                                      GGGCAAGCTGTCCCTCAGCTTCCCCAAGCGCCTTGCAGGACAACCCCGCGTTTCTCAACTT 2003
                                                                                                                                                                                                                                       GACGGCGCTGGTCACGAAAGACTTCCTGACCGCCGTCAACATGCAGTACTACAACAGCGG
                                                                                                                                                                                                                                                                         CGGCGGCAACGAGACGGCAACTCCATTGCCGACGTCGTCTTTGGCGACTACAACCCCTC 1943
                                                                                                                                                                                                                                                                                                         GGTCCTCACCATGGCGCCGCAGACCATCGACATGCAGTCGCCCGAGAACGAGTACTTCAA
                                                                                                                                                                                                                                                                                                                                         CTACGCGCTGATGGAGGAGTACGGCTTCGACGGCGTCGACATCGACCTGGAGAACGGCCT 742
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TAACGCCGACTGGGAGACCGAGGGCGCCGACCGCGCGAGCATGAAGCTCCCCGGCGTGCT 1763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AATCGAAAAGTCCGTCGCCCTCGCCAAGGAGCACGACCAGGTCATCATCTGCGCGGGGCCT 1703
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGTCCCCGGCCACGGCTCCCCCCGTCGGCGCTGCAAGGTCATTGACGACCAGGCCGA 1643
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGGCGAGATCACCCTCGACTCGGTCGGGCCTCGGCGGCTACACCGACGAGCAGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCCGGACGCCTACGACATCATCG------CCGTCTCCTTCGCCGACGCCACGGCCAACGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTTCTTCGGCTCCGCCACCCGCGAGGAGGACGGCCCGCATCAATCTCGTCAAGGGCAACAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGCGTACGTAGACGACCAGCTCGTCGTCGACAACGCCACCAAGCAGGTCCCCGGCGATGC 1463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTACACCGCCGACGAGGACTGCACCTACGAGCTCGGCCTCGTCGTCGTCGGCGCAAA 1403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GACCGCCGCCCTCACCGCGCCGTCCTCGGCCCCTCCGGGCTCGCCCTCACCGGCCCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGTGACCGGTTACTGGCAGAACTTCAACAACGGCGCGACCGTGCAGACCCTCGCCGACGT 448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 78.2; DB 10;
Pred. No. 8.2e-12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                503;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 1294;
                                                                                                                                                                                                                                                                                                           862
                                   1102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1523
                                                                                                                                                                                                                                       922
                                                                                                    1042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  562
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           328
```

```
χġ
                                                                                 밁
                                                                                                                       QУ
                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                        QΥ
                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QY
밁
                                                                                                                                                                   밁
                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                         Дb
                                                                                                                                                                                                                                                                                                                                                                                                                           DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM: Streptomyces albidoflavus US-09-748-033-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-748-033-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: GONGOTA, CATMENZA E.
TITLE OF INVENTION: EFFECT OF ENDOCHTINASE AND CHITOBIOSIDASE AND THEIR
TITLE OF INVENTION: ENCODING GENES ON PLANT GROWTH AND DEVELOPMENT
FILE REFERENCE: 19603/3091
CURRENT APPLICATION NUMBER: US/09/748,033
CURRENT FILING DATE: 2000-12-22
PRIOR APPLICATION NUMBER: 60/172,003
PRIOR FPEDICATION NUMBER: 60/172,003
PRIOR FILING DATE: 1999-12-23
NUMBER OF SEQ ID NOS: 8
SOFTWARE: PATENTIN Ver. 2.1
SEQ ID NO 6
LENGTH: 1107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 3.0%;
Best Local Similarity 45.7%;
Matches 390; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 6, Application US/09748033 Patent No. US20020069431A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Broadway, Roxanne M. APPLICANT: Gongora, Carmenza E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                 1489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1189
                                                                                                                                                                                                                                                                                               1549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1129 GTCGGCGCCTACACCACCGTTCCTCCCATTCTAGGCGAGCAGTGCCTCACGCCCGACGGC 1188
                                                                                                                                                                                                           1609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      118
                                                                                                                                                                                                                                                     535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    178
715
                                                                                                                                                                                                                                                                                                                                         475
                                                                                                                                                                                                                                                                                                                                                                                                                             415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCCGCCAAGTCCATCGGTGACAGCTTCGCCGCCTACGACAAGGCGTACACCGCCGCC 177
GCCGCCGCCATCGCCAAGCTCAAGGCGAAGGGCGTCCCGGCGAGCAAGCTCCTGCTCGGC
                                     GAGGGCGCCGACCGCGAGCATGAAGCTCCCCGGCGTGCTGGACCAGCTCATTGCCGAC 1782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CACGACCTGG----TCGAGGACCCGCGCTGGGCCGACGTCTTCGACGGCATCGACCTCGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCGCGCCCCACTCGGCCCTGAACTCCTACAGCGGCATCCCCAAGGCCGACTTCCACTCG
                                                                                                                         CTCGCCAAGGAGCACGACCAGGTCATCATCTGCGCGGGCCTTAACGCCGACTGGGAGACC 1722
                                                                                                                                                                   TTCGACTGGTACAACGTGATGACGTACGACTTCTTCGGCGCCTGGGACAAGA&CGGCCCG
                                                                                                                                                                                                         GTCGGCGGCTGCAAGGTCAT----TGACGACCAGGCCGAAATCGAAAAGTCCGTCGCC 1662
                                                                                                                                                                                                                                                     GCCGACGCCAGCTCCGGCGGCAAGCTCGACGCCGCCGACTACGCGGGCGCCGCCCAGTAC
                                                                                                                                                                                                                                                                                               AACATGGTCCAGGCGATGCGCCCCAGTTCGGCACCGACCTGGTCACCGCCGCCATCACC
                                                                                                                                                                                                                                                                                                                                                                                 GAGACGGGCCGCATCAATCTCGTCAAGGGCAACACGTACAAGTTCAAGATCGAGTTCGGC 1548
                                                                                                                                                                                                                                                                                                                                                                                                                             TGGGAGTACCCGAACGCCTGCGGCCTCAGCTGCGACAGCTCCGGTCCGGCCGCGCTGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTCGACAACGCCACCAAGCAGGTCCCCGGCGATGCCTTCTTCGGCCTCCGCCACCCGCGAG 1488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCTGGTCCGGCGGCTTCACCGACGCCGTGAAGAACCCGGCCGTCGCCAAGTCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCGGCAGACACGTGGTACGCCGACATGGAGGGCACGTACACCGCCGACGACGACTGCACC 1368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATTGACGAGCTCTTCTTCACCAAGACGGACATGCACCTGGTGGACTACTACCACCCCAAG 1308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GAGTCGGTCGACGCCGACACCTGGGACCAGCCGCTGCGCGCGAACTTCAACCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCTCCGGGCATGCGCTGGAGGGTCTTCAACGAGCCCCCTGGTACCCCTAACCGCCAGCAC 1248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0; Mismatches 448;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 76.2; DB 10; Pred. No. 2.8e-11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 1107;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels | 15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                               1608
774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1428
                                                                                 714
                                                                                                                                                                   654
                                                                                                                                                                                                                                                       594
                                                                                                                                                                                                                                                                                                                                         534
                                                                                                                                                                                                                                                                                                                                                                                                                             474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                357
```

ω

```
멍
                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qy
                      Š
                                                                                                     Ş
                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                   맑
                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                     B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; TYPE: DNA
; ORGANISM: Streptomyces albidoflavus
US-09-748-033-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 13
US-09-748-033-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 4, Application US/09748033 Patent No. US20020069431A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 3.0%;
Best Local Similarity 45.7%;
Matches 390; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQ ID NO 4
LENGTH: 2712
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CURRENT APPLICATION NUMBER: US/09/748,033
CURRENT FILING DATE: 2000-12-22
PRIOR APPLICATION NUMBER: 60/172,003
PRIOR FILING DATE: 1999-12-23
NUMBER OF SEQ ID NOS: 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Broadway, Roxanne M.
APPLICANT: Gongora, Carmenza E.
TITLE OF INVENTION: EFFECT OF ENDOCHITINASE AND CHITOBIOSIDASE AND THEIR
TITLE OF INVENTION: ENCODING GENES ON PLANT GROWTH AND DEVELOPMENT
FILE REFERENCE: 19603/3091
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOFTWARE: PatentIn Ver. 2.1
1129 GTCGGCGCCTACACCACCGTTCCTCCCATTCTAGGCGAGGGGTGCCTCACGCCCGACGGC 1188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1189 GCTCCGGGCATGCGCTGGAGGGTCTTCAACGAGCCCCCTGGTACCCCTAACCGCCAGCAC 1248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1685 GGCGGCAAGTGCACCATCGGTGACAGCTTCGCCGCCTACGACAAGGCGTACACCGCCGCC 1744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1783 GTGGCCGCCGCGAACCCAAACACCGTCGTCGTCATGCAGA-----CGGGCACCCCCGAG 1836
                                                                2042 AACATGGTCCAGGCGATGCGCCCCAGTTCGGCACCGACCTGGTCACCGCCGCCATCACC
                                                                                                                                                    1982 TGGGAGTACCCGAACGCCTGCGGCCTCAGCTGCGACAGCTCCGGTCCGGCCGCGCTGAAG
                                                                                                                                                                                                                                                                                                                                                                                                         1805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1745 GAGTCGGTCGACGGCGTCGCCGACACCTGGGACCAGCCGCTGCGCGGCAACTTCAACCAG 1804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1957 CTCAGCTTCCCCA 1969
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      955 TGGAGCTACGACA 967
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GAGATGCCCTGGCTCGACGCCACGCCCGCCGTCATCCAGGCCTGGTACGGCGGCAACGAG 1896
                                                                                                        GAGACGGGCCGCATCAATCTCGTCAAGGGCAACACGTACAAGTTCAAGATCGAGTTCGGC 1548
                                                                                                                                                                          CACGACCTGG - - - TCGAGGACCCGCGCTGGGCCGACGTCTTCGACGGCATCGACCTCGAC
                                                                                                                                                                                                                                                                         ACCTGGTCCGGCGGCTTCACCGACGCCGTGAAGAACCCGGCCGCCTTCGCCAAGTCCTGC
                                                                                                                                                                                                                                                                                                                                                               GCGGCAGACACGTGGTACGCCGACATGGAGGGCACGTACACCGCCGACGAGGACTGCACC 1368
                                                                                                                                                                                                                                                                                                                                                                                                                                               ATTGACGAGCTCTTCTTCACCAAGACGGACATGCACCTGGTGGACTACTACCACCCCAAG 1308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACGGGCAACTCCATTGCCGACGTCGTCTTTGGCGACTACAACCCCTCGGGCAAGCTĞTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACCGGCCCGGCCACCGGCACCTACGAGGCGGCCATCGAGGACTACAAGGTCCTCAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATCGGCTTCTACGGCCGCGGCTGGACCGGCGTCACCCAGGACGCCCCGGGCGGCACCGCC
                                                                                                                                                                                                                                                                                                                                                                                                         CTCCGCAAGCTCAAGGCCAAGTACCCGCACATCAAGGTCCTCTGGTCCTTCGGCGGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 76.2; DB 10;
Pred. No. 3.6e-11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches 448;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 2712;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                        1924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1956
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              834
                                                                  2101
                                                                                                                                                    2041
                                                                                                                                                                                                                                      1981
                                                                                                                                                                                                                                                                             1428
                                                                                                                                                                                                                                                                                                                                                                                                         1864
```

```
망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
; LOCATION: (1).
US-09-815-242-7960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-815-242-7960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 14
                                                                                                                                                                                                                                                                                                PRIOR APPLICATION NUMBER: 60/206,848
PRIOR FILING DATE: 2000-05-23
PRIOR FILING DATE: 2000-05-26
PRIOR FILING DATE: 2000-05-26
PRIOR FILING DATE: 2000-05-26
PRIOR APPLICATION NUMBER: 60/242,578
PRIOR FILING DATE: 2000-10-23
PRIOR APPLICATION NUMBER: 60/253,625
PRIOR APPLICATION NUMBER: 60/257,931
PRIOR APPLICATION NUMBER: 60/257,931
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
                                                                                                                                       SEQ ID NO 7960
LENGTH: 1914
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 7960, Application US/09815242 Patent No. US20020061569A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE OF INVENTION: Identification of Essential Genes
TITLE OF INVENTION: Prokaryotes
FILE REFERENCE: ELITRA.011A
CURRENT APPLICATION NUMBER: US/09/815,242
CURRENT FILING DATE: 2001-03-21
CURRENT FILING DATE: 2001-03-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                               PRIOR
PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Haselbeck, Robert
                                                                                                                                                                                                                                                       PRIOR FILING DATE: 2000-12-22 PRIOR APPLICATION NUMBER: 60/269,308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION NUMBER: 60/191,078 PRIOR FILING DATE: 2000-03-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                       SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                          NUMBER OF SEQ ID NOS:
                                                                                                                                                                                                                                PRIOR FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
                                             FEATURE:
NAME/KEY: CDS
                                                                                        ORGANISM: Pseudomonas aeruginosa
                                                                                                                  TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1723 GAGGGCGCCGACCGCGAGCATGAAGCTCCCCGGCGTGCTGGACCAGCTCATTGCCGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1609 GTCGGCGGCTGCAAGGTCAT-----TGACGACCAGGCCGAAATCGAAAAGTCCGTCGCC 1662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2522 TGGAGCTACGACA 2534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1837 GAGATGCCCTGGCTCGACGCCACGCCCGCCGTCATCCAGGCCTGGTACGGCGGCAACGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1783 GTGGCCGCCGAACCCAAACACCGTCGTCGTCATGCAGA-----CGGGCACCCCGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2222 ACCGCGCCCCACTCGGCCCTGAACTCCTACAGCGGCATCCCCAAGGCCGACTTCCACTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1663 CTCGCCAAGGAGCACGACCAGGTCATCATCTGCGCGGGCCTTAACGCCGACTGGGAGACC 1722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2162 TTCGACTGGTACAACGTGATGACGTACGACTTCTTCGGCGCCCTGGGACAAGACCGGCCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2102 GCCGACGCCAGCTCCGGCGGCAAGCTCGACGCCGACTACGCGGGCGCCGGCCCAGTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTCAGCTTCCCCA 1969
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCTGCCCCGCCACCGGCACCGTCGGCGGCACCGCGTACGCCAAGTGCCGGCAGCAACTGG 2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCGGCCCGGCCACCGACCTACGAGGCGGCCATCGAGGACTACAAGGTCCTCAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATCGGCTTCTACGGCCGCGGCTGGACCGGCGTCACCCAGGACGCCCCGGGCGGCACCGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCCGCCGCCATCGCCAAGCTCAAGGCGAAGGGCGTCCCGGCGAGCAAGCTCCTGCTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACGGCCAACTCCATTGCCGACGTCGTCTTTGGCGACTACAACCCCTCGGGCAAGCTGTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Zyskind, Judith W. Wall, Daniel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Yamamoto, Robert T.
Xu, H. Howard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Carr, Grant J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Trawick, John D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ohlsen, Kari
                       ...(1914)
                                                                                                                                                                                                                                  2001-02-16
                                                                                                                                                                                                                    14110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1836
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1956
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1896
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2221
```

```
δÃ
                                                                                                         Ş
     밁
                                                                         멍
                                                                                                                                              B
                                                                                                                                                                                Qy
                                                                                                                                                                                                                     뮹
                                                                                                                                                                                                                                                     Q
                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                Вþ
                                                                                                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        맒
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ν
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches 452;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local :
                                                                                                                                                1001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1715
                                                                                                                                                                                                                                                         2006
                                                                                                                                                                                                                                                                                                                              1946
                                                                                                                                                                                                                                                                                                                                                                                                    1886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1767
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1235 CTAACCGCCAGCACATTGACGAGCTCTTCTTCACCAAGACGGACATGCACCTGGTGGACT 1294
                                                                                                                                                                                                                     941
                                                                                                                                                                                                                                                                                                                                                                  821
                                                                                                                                                                                                                                                                                                                                                                                                                                        761
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACTACCACCCAAGGCGGCAGACACGTGGTACGCCGACATGGAGGGCACGTACACCGCCG 1354
GTGCCGCCATCCAGGGGGGGGTCCTGGCCGGCGACGTGAAGGACGTGCTGCTGCTCGACG
                               AGAACACCGGCTCCGTGCCCGGCGCACAGGTGGCCCCAGCTCTACGTCAAGCCCCCTCCAAG
                                                                                                                                                                                                                                                                                                                         GCAAGCTGTCCCTCAGCTTCCCCAAGCGCCTGCAGGACAACCCCGCGTTTCTCAACTTCC 2005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCGTCGCCCTCGCCAAGGAGCACGACCAGGTCATCATCTGCGCGGGCCCTTAACGCCGACT 1714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCCGTCGCTTCGAAGAAACGTGGTTCAGAAAGACATCCAGATGGTGCCGTACAGCATCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCAAGCGCCAGGCGGTCACCAACCCGCAGAACACCCTGTATGCGGTGAAGCGCCTGATCG 220
                                                                       CCGAGTTCTTCGGCAAGGAAGCGCGCAAGGACGTCAACCCGGACGAAGCCGTGGCTGTCG
                                                                                                       CCTTTTCCAATCTCTCCGTGTCTCACAAGGACGGCAAGCTGAGCGTGTCCCTCTCCGTGA 2185
                                                                                                                                            TCCATGAAGTGATCCTGGTCGGCGGCCAGACCCGCATGCCGCTGGTACAGAAGACCGTTG
                                                                                                                                                                            AGTTTGCCGACAAGGACGTCAATTTCCCCTTTGGCCACGGCCTGTCCTACACCACTTTTG
                                                                                                                                                                                                                  AGCGCACCATCGAGCCGTGCCGCACCGCGCTGAAGGATGCCCGGCCTGGATGTTTCCGATA 1000
                                                                                                                                                                                                                                                   GCACCGAGGCCGGGCGCACGCTGTACGGCGAGGACGTCTACGTCGGGTACAGGTACTACG 2065
                                                                                                                                                                                                                                                                                       AGCACCTGAACGTCAAGGTTTCCCGCGCCAAGCTGGAGTCCCTGGTCGAAGACCTGGTGC
                                                                                                                                                                                                                                                                                                                                                              CCTCGACCCAGCAGCCGACGTCAACCTGCCGTACGTGACTGCCGACGCGAGCGGTCCGA
                                                                                                                                                                                                                                                                                                                                                                                                GCGGCAACGAGACGGCAACTCCATTGCCGACGTCGTCTTTGGCGACTACAACCCCTCGG 1945
                                                                                                                                                                                                                                                                                                                                                                                                                                    GCGACCCGCTGGCCATGCAGCGTCTGAAGGAAGCCGACGAGAAGCCCAAGATCGAGCTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCCGCCTGATCGACTACCTCGTCGACGAGTTCAAGAAGGGAAAGCGGCATCAACCTGAAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCAGTTCGAAGTGCTGGCCACCAACGGCGACACCTTCCTCGGCGGCGAAGACTTCGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGGAGACCGAGGGCGCCGACCGCGCGAGCATGAAGCTCCCCGGCGTGCTGGA-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGGCGGCGCTGGCCTGGACAAGGCCAAGGGCGACCACACCGTGATCGTCTATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACGGCTCCCTCCGCGTCGGCGGCTGCAAGGTCATTGACGACCAGGCCGAAATCGAAAAGT 1654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCAAGGACGCCGGCCGCATCGCCGGCCTCGACGTCAAGCGGATCATCAACGAGCCGACCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGATCGAGTTCGGCTCCGCACCCACCTACACCCTCAAGGGCGACACCATCGTCCCCGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCGCCACCCGCGAGGAGACGGGCCGCATCAATCTCGTCAAGGGCCAACACGTACAAGTTCA 1534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACGACCAGCTCGTCGACAACGCCACCAAGCAGGTCCCCGGCGATGCCTTCTTCGGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACCTGGGCGGCGTACCTTCGACGTGTCGGTGATCGAGATCGCCGAAGTCGACGGCGAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGATTTCCGCCGAAGTGCTGAAGAAATGAAGAACCGCCGAAGACTACCTCGGCGAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCAAGGCCGACAACGCCGACGCCTGGGTGGAAGTGAAGGCCCAGAAGATGGCGCCTCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -CCAGCTCATTGCCGACGTGGCCGCCGCGAACCCAAACACCGTCGTCGTCATGCAGACGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2.9%;
42.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 73.6; DB 10;
Pred. No. 1.7e-10;
0; Mismatches 599;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 1914;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9;
                                                                                                                                            1060
 1180
                                                                                                                                                                              2125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     <u>بــ</u>
```

```
Ş
                                                                                                      Qy
                                                                                                                                                   Ъ
                                                                                                                                                                                            Qγ
                                                                                                                                                                                                                                        B
                                                                                                                                                                                                                                                                                 QУ
                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                           δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                  Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Dр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; OTHER INFORMATION: Description of Artificial Sequence: Trp427-Gly431 US-09-476-242-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-476-242-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
APPLICANT: BARNETT, Susan
APPLICANT: HARTOG, Karin
APPLICANT: MARTIN, Eric
TITLE OF INVENTION: MODIFIED HIV ENV POLYPEPTIDES
FILE REFERENCE: 1605.002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 2.9%;
Best Local Similarity 43.0%;
Matches 464; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQ ID NO 9
LENGTH: 2541
TYPE: DNA
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 9, Application US/09476242 Patent No. US20020146683A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CURRENT APPLICATION NUMBER: US/09/476,242
CURRENT FILING DATE: 1999-12-30
NUMBER OF SEQ ID NOS: 26
SOFTMARE: Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURE:
                      1855
                                                                                                                                                                                               1735
                                                                                                                                                                                                                                                                                     1675
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1255 GAGCTCTTCTTCACCAAGACGGACATGCACCTGGTGGACTACTACCACCCCAAGGCGGCA 1314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2246 CGGCCAAGATTAACCGCCCCGTCAAGGAGCTCAAGGGCTT 2285
                                                                                                                                                                                                                                                                                                                                                                         1615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1315 GACACGTGGTACGCCGACATGGAGGGCACGTACACCGCCGACGAGGACTGCACCTACGAG 137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1181 TGACCCCGCTGACCCTCGGCATCGAGACCCTGGGCGGCGT 1220
                                                                                                                                                                                                                                          859
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            439 GACCGCGGCGAGATCAAGAACTGCAGCTTCAAGGTGACCACCAGCATCCGCAACAAGATG 498
                    GCCACGCCCGCCGTCATCCAGGCCTGGTACGGCGGCAACGAGACGGGCAACTCCATTGCC 1914
                                                               CACTGCAACATCAGCGGCGAGAAGTGGAACAACACCCTGAAGCAGAT - - - CGTGACCAAG 1032
                                                                                                      AACCCAAACACCGTCGTCGTCATGCAGACGGGCACCCCCGAGGAGATGCCCTGGCTCGAC 1854
                                                                                                                                                                                            GAGAGCGTGGAGATCAACTGCACCCGCCCCAACAACAACACCCGCAAGAGCATCACCATC
                                                                                                                                                                                                                                                                                   CACGACCAGGTCATCTGCGCGGGCCTTAACGCCGACTGGGAGACCGAGGGCGCCGAC 173
                                                                                                                                                                                                                                                                                                                                                       GGCTGCAAGGTCATTGACGACCAGGCCGAAAATCGAAAAAGTCCGTCGCCCTCGCCAAGGAG 167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTCGAGCCCATCCCACTACTGCGCCCCCGCCTCGCATCCTGAAGTGCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AACGCCACCAAGCAGGTCCCCGGCGATGCCTTCTTCGGCTCCGCCACCCGCGAGGAGACG 149.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTCGGCCTCGTCGTCTGCGGCACGGCAAAGGCGTACGTAGACGACCAGCTCGTCGTCGAC 1434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAGAAGGAGTACGCCCTGTTCTACAAGCTGGACGTGCCCCATCGACAACGACAACACC
                                                                                                                                                   GGCCCCGGCCGCCTTCTACGCC----ACCGGCGACATCATCGGCGACATCCGCCAGGCC 975
                                                                                                                                                                                                                                                                                                                                GTGGTGATCCGCAGCGAGAACTTCACCGACAACGCCAAGACCATCATCGTGCAGCTGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                  GACAAGAAGTTCAACGGCAGCGGCCCCTGCACCAACGTGAGCACCGTGCAGTGCACCCAC 738
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGCCGCATCAATCTCGTCAAGGGCAACACGTACAAGTTCAAGATCGAGTTCGGCTCCGCA 1554
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGCTACAAGCTGATCAACTGCAACACCAGCGTGATCACCCCAGGCCTGCCCCAAGGTGAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Mismatches 608;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 73.2; DB 10;
Pred. No. 2.4e-10;
=
=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length
=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2541;
                                                                                                                                                                                                                                        918
                                                                                                                                                                                                                                                                                                                                858
                                                                                                                                                                                                                                                                                                                                                                                                                  798
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             678
```

2

```
밁
                                                                                                          δõ
                                                                                                                                              В
                                                                                                                                                                                   Ω
                                                                                                                                                                                                                        멍
                                                                                                                                                                                                                                                        Q
                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                      Дb
                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                    2275 CTCAAGGGCTTCGCAAAGGTCGAACTGCAGCCCGGCGAGACGAAGGCGGTGACAATCG 2332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1033 CTGCAGGCCCAGTTCGGCAACAAGACCATCGTGTTCAAGCAGAGCAGCGGCGGCGAÇCCC 1092
                                                                       1393 GACAACTGGCGCAGCGAGCTGTACAAGTACAAGGTGGTGAAGATCGAGCCCCTGGGCGTG 1452
                                                                                            2215 GTGGCCCAGCTCTACGTCAAGCCCCCTCCAAGCGGCCAAGATTAACCGCCCCGTCAAGGAG 2274
                                                                                                                                                1333 GGCGGCAAGGAGATCAGCAACACCACCGAGATCTTCCGCCCCGGCGGCGGCGACATGCGC 1392
                                                                                                                                                                     2155 GACGGCAAGCTGAGCGTGTCCCTCCGTGAAGAACACCGGCTCCGTGCCCGGCGCACAG 2214
                                                                                                                                                                                                                      1273 CCCATCCGCGGCCAGATCCGCTGCAGCAGCAACATCACCGGCCTGCTGCTGACCCGCGAC 1332
                                                                                                                                                                                                                                                 2095 TTTGGCCACGGCCTGTCCTACACCACTTTTGCCTTTTCCAATCTCTCCGTGTCTCACAAG 2154
                                                                                                                                                                                                                                                                                             1213 CTGCCCTGCCGCATCAAGCAGATCATCAACCGCTGGGGCGGCAAGGCCATGTACGCCCCC 1272
                                                                                                                                                                                                                                                                                                                                2035 GAGGACGTCTACGTCGGGTACAGGTACTACGAGTTTGCCGACAAGGACGTCAATTTCCCC 2094
```

Search completed: May 4, 2003, 00:04:17 Job time: 380.041 secs